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DISTANCE LEARNING
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Contents

DISTANCE LEARNING

PURPOSE

Distance Learning, an official publication of the United States Distance Learning Association (USDLA), is sponsored by the USDLA, by the Fischler School of Education and Human Services at Nova Southeastern University, and by Information Age Publishing. Distance Learning is published six times a year for leaders, practitioners, and decision makers in the fields of distance learning, e-learning, telecommunications, and related areas. It is a professional magazine with information for those who provide instruction to all types of learners, of all ages, using telecommunications technologies of all types. Articles are written by practitioners for practitioners with the intent of providing usable information and ideas for readers. Articles are accepted from authors with interesting and important information about the effective practice of distance teaching and learning.

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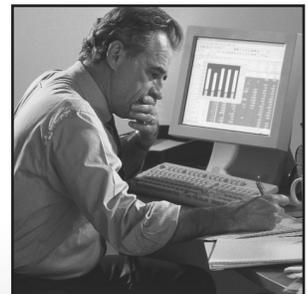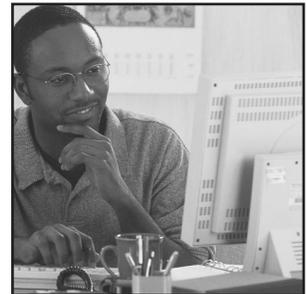
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Meet Today's Best Office Companions

Christine Perey

T he office is brightly lit by a full wall of windows facing west. Natural light pours in but the noise, hustle, and bustle of the rest of the world is held at bay. Besides the occasional chimes my computer produces, it's quiet, permitting me to concentrate on my projects. Personal productivity is in my control. I'm not spending hours each day in traffic and I continue to maintain routine interactions with colleagues, team members, and clients across town and around the world. In fact, we are life-sized and just about at arms' length from one another whenever we want to com-

municate. All that's missing is the proverbial water cooler between us!

Why is my work life so tranquil? I now share my office with two new videoconference systems from Polycom: the VSX 3000 and the V500.

Before selecting the worlds' best office companions, I took them for careful test drives.

GET CONNECTED— COMPLETELY AND PROPERLY

Less than 2 minutes elapsed between when the V500 box was opened and the system powered up and connected to the 19-inch display, a no-frills television set purchased at a local home electronics retailer for under $200. The cables to connect the monitor to the appliance are all clearly color-coded. Looking back in the box, all I found was the remote control, batteries and the manual on CD. Another 15 seconds to pop in the AA batteries. I left the manual where I found it.

With the VSX 3000, unpacking and connecting was even faster because the display has the appliance, camera, and speakers built in, and the only cables provided are to the network and power outlet. In this case, I took the extra 30 seconds to attach the 15-pin (DB15HD) interface coming from a Windows PC to the display. The VSX 3000 is designed to serve as either a video-

conferencing system or a 17-inch flat panel SXGA display for any personal computer. If space is in short supply and you are using a tower PC, the VSX 3000 is a very attractive solution.

The only ingredients the user needs to add to complete the solution and begin conferencing are the network and a well-lit subject.

Networking is absolutely paramount to any knowledge worker with a virtual office, or for that matter, anyone in any office. You don't need to be a network engineer to set up and configure Polycom small office systems. For these tests, Internet access is via an ADSL router providing 200kbps up and 1200kbps down. The VSX 3000 supports data rates of up to 2Mbps. On the local area side of the ADSL router, several personal computers, a VoIP (voice over Internet protocol) phone and the systems I'm testing are connected and share access to the Internet. They receive their internal IP addresses by way of DHCP in the router but I have specified a static internal address for the videoconferencing system.

Using the remote control to advance through the screens, following the setup wizard was a breeze. Name? Country? Network type and speed? Do you want to register with a gatekeeper? The key, I learned, is actually not to be in too much of a hurry. If, once it has booted up, the system "talks" to the

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GET INTO FOCUS

If you don't want to focus on a user manual, these systems are perfect. Polycom has kept the same sleek and intuitive design on the remote control and in the on-screen user interface, so if you have used other Polycom videoconferencing systems, everything will look and feel familiar. If you have never used a Polycom-brand videoconferencing system, the ease of use (even for a total beginner) is one of the most important reasons the company dominates the group system category in terms of units sold annually.

Using dual microphones and speakers designed for the solution and the company's award-winning Siren 14 technology, Polycom VSX 3000 can offer a very high quality audio experience. VSX 3000's dual speaker design also supports a stereo-based conference call experience: StereoSurround. The superior audio fidelity provided by the unique compression algorithm is available only when the far end point also supports Siren 14.

SHARING THE SCREEN

Seeing other people's faces and gestures is much better than only hearing their voices during a teleconference, but these are rarely enough in today's business meetings. Frequently, we focus at least some of our attention on a computer file such as slides or a document. Over the past 3 years, Polycom has optimized the integration of data and video in their conferencing systems. The video is optimized with video-specific algorithms, while the data side of the screen is treated separately during the decoding and display.

Both the systems tested for this review support Polycom's People + Content technology for combining a video window of the person at another location while also seeing a

local network for a few minutes, the two come to a convenient agreement. Technically referred to as the "discovery process," the network communicates its options and details, such as the fixed IP address, and the videoconferencing system adapts itself to the best settings based on the information it receives from the router. When I saw the external IP address appear on the screen under my picture (my IP address: 194.158.241.231), I held my

breath and entered the IP address of the person waiting for my call.

Both the V500 and VSX3000 model running version support two communications standards (H.323 and SIP) for placing and receiving video calls. Both systems also support the latest video compression codec, H.264 for higher video quality at lower bandwidths, during a call with another system which also has the ability to encode and decode a H.264 video stream.

document or PowerPoint slide. The V500 has the ability to start/send as well as to receive properly formatted People + Content from a remote location using Polycom People + Content. With version 7.5 of the software, the VSX 3000 will send and receive slides and simultaneous video as well (prior to 7.5, VSX 3000 could only receive People + Content). The VSX 3000 does an excellent job of emulating a dual-monitor scenario in which the local and far video windows appear side by side. Many people who are accustomed to group videoconferencing systems rely on dual monitors to see how they look to the far end.

One option that is available on the VSX 3000 (but not on V500) is the ability to host a multipoint call and send mixed video and audio to two other systems. By virtue of standards, V500 and VSX 3000 users can join a multipoint call hosted on an H.323 multipoint server or by another H.323-compliant end point.

WHEN DESIGNS COUNT

Adding a videoconferencing system to a small office makes a statement not only to those who can reach you by way of this technology, but also to those who enter the office in person. A videoconferencing system should fit in with the other equipment and furnishings in an office. The V500's flat silver finish and domed shape fits in with most office settings without really making a fashion statement. Flat panel displays are increasingly common, but the VSX 3000's black color, integrated speakers and microphone covers and stylish pedestal base give it a little more sophisticated and decorative look.

CHOOSING A SYSTEM

A person equipping a small office or meeting room won't go wrong with either of these products. They both earn four out of five stars (very good product, but some room for improvement remains). Since their features are relatively similar and both will amply meet the needs of the office occupant, the choice should be made based on which is in shortest supply: space or money. If you have more space than money and a television or monitor (NTSC or PAL) handy, the V500 is a compact and easy-to-use appliance that is sure to bring many years of virtual meetings to any office. For approximately twice the price, if space is a premium, the VSX 3000 provides a tightly-integrated and well-designed solution for both video meetings and as a monitor for general purpose computing.

In my airy yet compact office, the VSX 3000 is in daily use and when I go to my client facilities, I can carry the V500 with me to quickly and easily enhance our meetings with remote team members. After 3 months of use, I can say with confidence that these are the best companions with which I've had the pleasure to share my office.

"BEFORE SELECTING THE WORLD'S BEST OFFICE COMPANIONS, I TOOK THEM FOR CAREFUL TEST DRIVES."

—CHRISTINE PEREY

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The Classics are Coming Back!

Seven classic publications in the field of instructional technology are once again available. These seven are a must for professionals in the fields of instructional technology or distance education.

Extending Education Through Technology, a collection of writings by Jim Finn, long considered the "father of educational communications and technology," features articles written by Finn decades ago that are still widely quoted and directly relevant to the issues of the field today.

The history of the field, *The Evolution of American Educational Technology*, by Paul Saettler is *the* basic reference for how the field has grown and become the driving force in education and training that it is today.

Three books on this list of classics, Ball and Barnes' *Research, Principles, and Practices in Visual Communications*, Chu and Schramm's *Learning from Television*, and Ofiesh and Meierhenry's *Trends in Programmed Instruction*, are the primary sources for research and design in instructional technology and distance education. Some claim, and they are probably correct, that much of what are considered "best practices' today can be traced directly back to the conclusions provided by these three extremely important monographs..

Robert Heinich's often quoted and rarely found classic, *Technology and the Management of Instruction*, is a masterpiece of writing and advice about the field that resonates strongly today. This monograph may be Heinich's best work.

With little doubt, the 20 years of Okoboji conferences set the stage and provided a platform for leadership development and intellectual growth in the field. The Okoboji conferences have been often mimicked but never duplicated. This summary of the 20 years of conferences by Lee Cochran, the driving force behind them, provides a comprehensive overview of the Okoboji experience

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A Model for Designing Web-based Units of Instruction

Robert V. Price

A well-organized and consistent organizational format is critical to the success of any online course. When students complain that they don't understand what they are supposed to do, why they are assigned certain learning activities, or how their grade is determined, it stems from a lack of clarity or organization. While these problems are certainly not unique to online courses, good organization and clearly-stated instructional

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materials are probably even more important in cyberspace than in the face-to-face classroom.

In this article, I share a structural model for organizing course content that I have found to work well for me in my online courses. Much of what is described here will be generally familiar to seasoned instructors regardless of whether they teach online or in a classroom.

ORGANIZING THE COURSE

Most courses are organized into blocks of instruction that are usually called units, lessons, or modules. I choose to use the term *unit*. Most one-semester courses have between 8 and 15 units. This is probably due to the same reason that textbooks usually have about 15 chapters: the typical 15-week semester. A course with 15 units will cover about one unit per week. In an asynchronous environment, I find that 2 weeks per unit works better to provide adequate time for interaction between learners as well as with the instructor, so I usually have about eight units in a course. This is not to say that less should be covered in an online course, just that content might be better if chunked into larger blocks to allow time for dis-

semination and dialog before moving on to the next topic.

When organizing a course, the instructor must first decide how the course content is to be divided, how many units there will be, and what information will be covered in each. Once this has been decided, it is time to begin constructing the units.

Every instructor has his or her own philosophy of teaching and learning. The organizational structure that I provide here is not unique to any one approach and can be applied to most approaches, including constructivist approaches, concept attainment, and mastery learning. While the activities and evaluation will vary with these various approaches, the organizational structure can be standardized.

AN ORGANIZATIONAL STRUCTURE OF UNITS

In the model suggested here, each unit contains the following sections: introduction, module objectives, how to proceed, discussion, review or self-help exercises, and unit assignments. Units can be stored on the course Website, where students may read, print, or download them
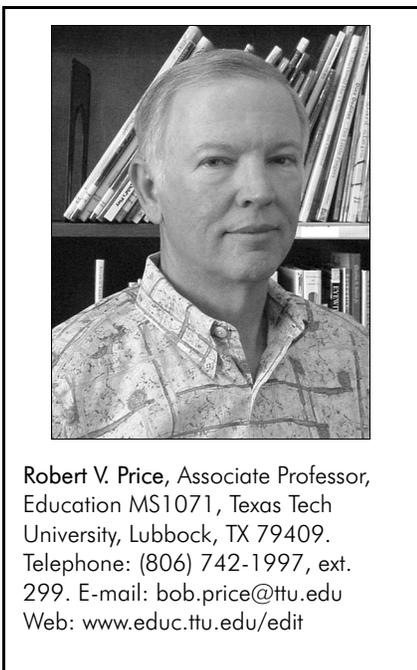
to their own PC. These main components of units are described below.

INTRODUCTION

The introduction presents an overview of the unit and is about a half page in length. It includes a brief overview of the material and activities to be covered in the unit, a statement describing the purpose of the unit, and sometimes thought-provoking questions, that are intended to focus the student's attention and provide motivation. Those who have completed basic teacher education training may recognize the introduction as the *set induction* that many teachers provide when they begin a new topic in the classroom.

Table 1. Sample Unit Objectives

After completing this unit, you should be able to:

- Locate books, journal articles, and reports by author, subject, and title using the university's on-line *Library Information System*;
- Conduct research on assigned topics using the *Library Information System*;
- Locate and use on-line journals for research;
- Use popular on-line databases for research;
- Construct information searches using Boolean logic;
- Locate Information on the World-Wide Web using basic and advanced search techniques;
- Describe and evaluate several major Web based search engines;
- Construct inquiry-based Internet research activities for students,
- Differentiate between instructional resources and primary resources,
- Apply the *Big 6* model in constructing inquiry based instructional assignments, and
- Evaluate information found on the Internet using a standard rubric.

Table 2. Sample Unit Procedures

1. Complete and submit Units 1 and 2 before proceeding with this unit.
2. Read the unit introduction and objectives.
3. Read Chapter 5 of the textbook and the discussion material included in this unit.
4. View the narrated *Power Point* presentation titled *Electronic Research* from the course CD.
5. For your own information, complete the self-help exercises included in this unit. These are not submitted with the unit assignment. You should complete some or all of these.
6. Complete the Unit Assignment including the multiple choice questions and application exercises.
7. If you have questions about the unit or assignment, you may send an e-mail message to me or submit it to the class via the discussion tool.
8. Submit your Unit 3 assignment via e-mail as described in the *Procedures for Submitting Assignments* in the *Course Introduction*.

UNIT OBJECTIVES

These are measurable statements of learning outcomes that clearly state what the student is expected to know or be able to do after completing the unit. It is important that the list of objectives be comprehensive enough to include all expected learning outcomes for the unit, and they should be clearly and unambiguously stated. A sample list of objectives for a unit from a course that I teach titled Curriculum Applications of the Internet is given in Table 1. The topic of this unit is electronic research.

HOW TO PROCEED

This section is a step-by-step listing of what the student is to do in order to complete the unit. This is an example only. Procedures may be written to specify the steps that are needed for any particular unit. The idea is that they should clearly state what the student must do to complete the unit.

DISCUSSION

This section might be thought of as a substitute for the class lectures and as a supplement to the textbook or other course materials. The purpose here is to supplement other course materials, not to rehash them. Important concepts and principles can be pointed out and explained. Important information that is not included elsewhere can be included. Points that the student may find confusing can be explained, and the importance and application of the unit material can be stated. Clear and concise writing is important here to avoid misunderstandings. In some courses, a textbook and/or Web resources are relied on heavily, and the discussion material within the unit will be brief. In courses that do not include a great deal of text or other reference material, the discussion mate-

Table 3.   Sample Review Exercises

1.   Define or describe the following key terms:

Think in terms of explaining each term to a friend or your instructor in a way that will show that you understand the practical working definition of each term.

- Query
- Search term
- Search Strategy
- Boolean Logic
- Limitors
- Relational Operators
- Hit
- Library Information Service
- Electronic Database
- Robot Programs
- Advanced Search
- Interlibrary Loan
- Library Express
- Online Catalog
- ERIC
- Electronic Journals
- Primary Sources
- Inquiry-Based Learning
- The Big Six Skills for Problem Solving
- Scaffolding

2.   Pick a topic of interest to you, such as a research paper for another course or a topic in which you are interested, and use the *Library Information System* to locate articles and citations for to your topic. Try to do all (or as much as possible) of your research on-line.

3.   Pick a topic of interest to you and visit Unified Web Searches at www.search.com. Try to locate information on this topic from several web search engines. Decide which ones are most likely to work best for you in the future.

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rial becomes more paramount. I boldface important terms within discussions. These are defined in context. References to articles, text chapters, and Web sites are also included in the discussion section.

REVIEW EXERCISES

These are self-help exercises and are designed to provide practice and reinforcement for the student. These exercises may be optional and not submitted or graded. Such activities as answering review questions from a textbook, defining key terms, problem-solving activities, or accessing Websites containing supplementary information may be included in review exercises. In my courses, I inform students that I expect them to do some of the review exercises, but not necessarily all of them. I will also follow up by asking them on course exams to describe the review exercises that they have completed.

UNIT ASSIGNMENT

The unit assignment should include an assignment that allows the student to demonstrate mastery of the unit objectives. In my courses, the unit assignments consist of a set of multiple-choice questions and a set of application exercises. If multiple choice questions are used, it is important that questions be worded well and that there be exactly one justifiably correct answer. Questions should be designed to measure concept attainment and an ability to apply the information contained in the unit, rather than simple recall of facts.

The applications assignments require the student to demonstrate the appropriate behaviors specified in the unit objectives. Specific instructions should be given in assignments. In some courses, diagrams, computer screens, and examples are included as appropriate. The assignment section also specifies exactly what items the student is to submit to the instructor. Some sample application exercises from the example unit on *Electronic Research* are given in Table 4.

DESIGN CONSIDERATIONS

One must consider not only the content of course units but also their appearance. Since long blocks of text are visually unappealing, I try to include pictures and graphics that reinforce the information presented and add visual appeal. Graphs and tables that summarize information are also provided. Key terms are given in boldface type and are defined in context. Titles of anything—books, articles, Websites, programs, and so forth—are given in italics for ease of identification. I make frequent use of bulleted or numbered lists.

CONCLUSION

Organizing courses into blocks of instruction provides a solid struc-

Table 4. Application Exercises

Applications Exercises (60%—15 points each)

Complete the application exercises below using your word processor and attach them to your assignment message.

1. Complete a short literature review on the subject of online learning. You may refine the basic topic, *online learning*, as you wish, such as limiting the search to certain subject areas, levels, dates, etc. Your literature review should consist of at least 5 journal article citations followed by a brief summary of the article. You may use either the *Library Information System* or the online E-Journals given in section 5.10 of this unit. Use this basic format for citations: Author(s), Article Title, Journal, Issue, Date, page(s). Limit your literature review to 3 pages.

2. Design an instructional problem solving activity for a level and subject of your choice, using the *Big Six* model. State which of the critical thinking skills, given at the end of the section on the Big Six model apply to your activity. (1 page maximum)

3. Share your ideas and experiences with online research with the class via the course bulletin board tool. Enter *Online Research* as the subject of your message and post it to the Lesson 3 forum. This is a fairly free form assignment. You might choose to tell something about a research project that you have completed, describe how you use Internet research in your teaching, provide information about useful web sites for research, or share other ideas that you think would be useful to class members. Read the messages posted by other class members and respond to at least 5 of them. Copy and paste your initial message into your assignment as Exercise 3. (1 page maximum)

ture for online courses. These units, modules, or lessons provide the glue that holds a course together. Instructional materials such as textbooks, audiovisual materials, and Web resources are integrated into the course through these organized units. Units will include learning activities such as class discussions, group assignments, exams, and individual projects. In courses that provide a well-articulated organizational structure, students will be more likely to master course content and there will be no need for them to ask: "What am I supposed to do? Why am I doing this? And "How is my work going to be evaluated?"

> "ORGANIZING COURSES INTO BLOCKS OF INSTRUCTION PROVIDES A SOLID STRUCTURE FOR ONLINE COURSES."
>
> —ROBERT PRICE

Sharing Perspectives

Karen Keifer-Boyd

This article explains the importance of sharing perspectives in an educational context and on how e-learning course tools can facilitate shared perspectives. I discuss examples, from two courses (one an undergraduate and the other a graduate course), of sharing perspectives in four distinct ways: cross-culturally, over time, about texts, and to collaboratively create art.[1]

The sharing of perspectives is relevant in a world in which diverse people need to work together harmoniously and conscious of their responsibility to human respect and rights, and to the global environment. Francois Trochon, a teacher educator interested in the potentials of video study groups, describes "pedagogy of sharing" in which "knowledge comes from engaging in communication with a cultural community" (2001, p. 10).

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Communication professor James Benjamin defines

five specific types of interactive classroom experience: 1) the evolution of traditional papers into hypertextual and hypermedia papers, 2) the progression from oral presentations to student created Web presentations, 3) the transformation of library assignments into structured Internet searches called WebQuests, 4) the development of journal assignments into online journals or "blogs," and 5) the unique opportunities of online discussions as a new form of group discussion." (Benjamin, 2003, p. 1)

This article extends instructional use of interactive media with an emphasis on the value of and strategies for shared perspectives in interactive communication.

While teachers and course designers can work toward teaching a shared vocabulary and may believe that "the notion of electronic communities can be best realized from within a particular application environment in which 'community members' share common values, objectives, and goals" (Reisman, 2003, p. xii), I believe that physical, psychological, and semiotic *noise* impacts interpretation and understanding, as well as the beliefs, values, and attitudes of all participants in the communication exchange. This article focuses on noise as important course content. E-learning course tools helped me to facilitate investigation into such pervasive noise in communication in two courses (one an undergraduate and the other a graduate course) in four distinct ways. I present course participants' learning from shared perspectives in cross-cultural exchanges, over time, about texts, and to collaboratively create art.

In the course "Visual Culture and Instructional Technology" (Fall 2003), I met twice a week in a computer lab with 19 students enrolled in the art education undergraduate degree programs at The Pennsylvania State University. Combined with the classroom interactions, we used ANGEL, which is an acronym for *A New Global Environment for Learning*.[2] I used ANGEL for pedagogical goals that require Internet functionality, a Web editor, and server space. One goal is to develop a community concerning the course themes beyond the physical time and space of the classroom. Students post papers for self-critique in relation to the content of others' responses, share and evaluate resources, and post ideas and plans for feedback from teacher and students.[3]

To initiate a sense of community I have students upload a photo or some other image to represent self. E-mail messages sent within ANGEL to others contain their self-representation. These often change over the course, and are a visual way to observe individual transformation. Additionally, students are required to send a message that includes something about themselves and that does one or more following:

- ask a question about something that was mentioned or that occurred in the class;
- react and reflect on what has occurred in class;
- respond to a reading that relates to or is assigned to the class;
- connect the course to a current social, educational, or personal issue;
- describe a concern related to the course or to the degree program.

I encourage continued e-mail communication in the course to connect with me and other course participants, to collaborate on projects such as group-developed WebQuests, and to send and receive resources, to ask questions and give feedback, and to network with others outside the course. The first e-mail is graded to help initiate communication and community. The first e-mail receives full credit if students fulfill the above, and if they ask the other class members for a response or respond to others' e-mail content, or offer future assistance or wisdom regarding something that might arise in the course projects. E-mail continues among some students. International exchanges continue in threaded discussions. In one assignment, I ask students, in groups of five, to read four others' critical analysis essays in relation to their own paper and respond to questions in the threaded discussion board such as:

"What is something you learned or had not considered previously that another discovered in their interpretation of the same work?"

The visual culture undergraduate course involves an intertextual postmodern pedagogical approach to art education, in which students interlink images, text, video, and sound in explorations of visual culture. The student-created visual culture intertextual Webs have traces and associations, perpetually displaces (i.e., has no center or stagnate categories), interplays surface with depth, has no prescribed path, and presents a multifaceted reality like a woven fabric for viewers to come to their own perspectives. To realize these intertextual characteristics in Web design, students critique Web art and peer Web sites in formative stages of development to provide suggestions to extend, connect, and challenge homogeneous presentations of issues. I ask students to suggest visual metaphors that focus the issue or theme in their peers' Web plans presented in message board postings that would not close down multiple perspectives concerning the issue.

CROSS-CULTURAL EXCHANGES

The cross-cultural exchange in the visual culture course in Fall 2003 involved an online discussion in ANGEL between students and art educators in Korea and the United States in three multivocal art criticism activities. The "Interpretation," "Representation," and "Difference" sections asked for critical interpretations of visual culture. While there are different perspectives on what is meant by the term *visual culture*, I refer to a specific social theory inquiry into visual manifestations of cultural practices that shape knowledge, representation, ideology, and power. My visual culture pedagogy involves examining cultural narratives and interrogating subject positions that are offered to us through visual and/or visualized cultural practices in terms of compliance, negotiation, or opposition to lived experience and social justice (Keifer-Boyd, Amburgy, & Knight, 2003). Visual culture "transcends the limitations of the senses, to include visions of things that may not be possible in the real world. Mental images are the substance of cognition" (Smith-Shank, 2004, p. 10). Class and online discussions and Web accessible resources help the participants in the course explore various meanings of visual culture. While students are encouraged to develop their own definitions, a shared vocabulary commences as we begin to understand the values, attitudes, and beliefs that each brings to the cross-cultural exchange.

The "multivocal" approach, is a term and concept I adapted from Victor Turner's (1967, 1975) anthropological work on multiple meanings assigned to a symbol within a culture and understood according to the contextual use of the symbol. My multivocal pedagogical approach is based on combining sets of questions, each set derived from theories in anthropology, sociology, feminism, art, and ecology. Each set of questions provides a *lens* to interpret visual culture. However, while a lens magnifies certain features and meanings, anything outside the focus is blurred or absent from the interpretation and judgment of the work's purpose and/or significance. The combination of different theoretical stances including a formalist ideology, a sociocultural framework based on social theory, experimental reconstruction in anthropology, feminist theory, and ecology perspectives referred to as *green criticism* provide a range that provokes critical inquiry at its best, when interpreta-

tive ideas are juxtaposed and contested.

I ask students, in groups of five, to each apply a different lens to a work. The group then presents to each other and to the class how their interpretations and discussions evoked contractions, extensions, and new meanings from the combination of different perspectives. The multivocal approach integrates different ways of knowing and experiencing to gain insights into the artist's thinking and making processes; and the social, political, economic, and cultural milieu from which the work is a part. It is a successful critique when the participants recognize that their interpretations are a reflection of themselves, and are aware of how their questioning strategy influenced their interpretation and judgment. The following are five sets of questions that people ages 12 years to adulthood have used to engage in a multivocal approach to interpreting visual culture. After seeing examples, the multivocal process stimulated shared perspectives in classroom and online discussions about specific works.

1. The **formalist lens** focuses on visual coherency and unique qualities of visible features (Greenberg, 1977).

- How are the visual features—objects, people, colors, textures, lines, shapes—presented in a unique way?
- What is emphasized by the style of representation?
- How do the visual forms work together to express an emotion or idea, yet keep the focus on the work and not to its reference?

2. The **socio-cultural lens** focuses on the cultural stories, often expressed as metaphors, that the work conveys within a specific social context (Lakoff & Johnson, 1980/2003; McFee, 1998).

- Who or what is powerful in this image?
- What does the creator of the work believe and support?
- Who might the image be made for and how are they positioned in relation to the work?
- Who would or would not like the image, and why?
- What social relationships are conveyed?
- What cultural story is told through the work and its presentation in specific contexts?
- What is the societal status of this work compared to other visual culture forms, and how has it changed over time?

3. The **anthropological lens**[4] involves reconstructing the making experience in some way so that the viewer/researcher has insights into the material and conceptual processes. To do this, the viewer needs to engage in activities that are similar to the making and conceptual processes involved in the creation or use of a specific work. For example, in understanding Natalie Bookchin's (2002) *MetaPet*,[5] the student might re-create an existing game that changes the imagery and therefore its message. To understand the collaborative artwork, *RadarWeb* by Sawad Brooks and Beth Stryker (1996), you might ask for images and memories from others about a specific event and combine them within an artwork that can be broadcasted or disseminated on a large scale.

4. The **feminist lens** focuses on one's personal experiences shaped by societal views of gender, ethnicity, age, and so forth in relation to the work (Fiore & Nelson, 2003; Garber, 1996).

- What are the overt or covert messages in the work concerning gender, race, and social class?
- How are you positioned in relation to these messages?
- What does the subject matter mean to you?
- How does this image impact you?

5. The **ecology or green criticism lens** focuses on the impact of the work on the environment (jagodzinski, 1991).

- Where did the artist obtain the materials to produce the work?
- Were any species exploited in the production or process?
- How does the use of the materials in the work impact the environment?
- Are the materials biodegradable?
- Does the work inform us about a specific time and place?
- What does this work contribute to an environmental awareness of a specific place?

This multivocal approach was the basis for the Interpretation, Representation, and Difference cross-cultural exchange activities.

INTERPRETATION

The Interpretation assignment[6] was described to students as follows:

Disney movies are created from folktales and stories that express long-held beliefs about heroes, villains, and overcoming difficulties. We learn cultural values from these stories. Specifically, we will consider race, gender, and conceptions of beauty in the Disney animated film *Beauty and the Beast*. First read Barrett's (1994) article, "Principles for Interpreting Art," accessible through electronic reserve. Then go to examples of interpretations of *Beauty and the Beast* by selecting each of the five different lenses in the multivocal

art criticism approach introduced in this activity. Next choose at least one lens and answer the questions with that lens and post your responses in the "INTER-PRETATION" Message Board under the "Lesson" section of ANGEL.

PLEASE NOTE: You can view QuickTime® clips of *Beauty and the Beast* and see images of the characters by clicking here. Under movie at this site there is a synopsis and film trailer, etc. However, if you are unfamiliar with this Disney film, then select another that you have seen. And, if you have never seen a Disney film select any film to apply one of the lenses in the multivocal approach.

Evaluation: Full credit for responding to all questions in one or more multivocal lens with a persuasive and coherent argument supported by evidence with specific cultural references.

In the "Interpretation" activity in Fall 2003, in which participants critiqued a Disney animated film, one of the 22 participants who was a Korean art teacher, expressed her surprise concerning the difference in responses. She wrote, "I have read many responses to the *Beauty and Beast*. The diverse perspectives on the movie surprised me" (K1, October 4, 2003). Such a realization is a learning goal of my cross-cultural exchange pedagogy. Another in this same activity found similarities among those that he perceived as different. This Penn State art education student wrote, "I, too, find myself viewing the content of this movie through lens #4—mostly because of how disgusted I am by the gender roles portrayed in it" (P1, September 9, 2003).

REPRESENTATION

The "Representation" assignment was presented as follows:

Have you seen Disney's movie, *Jungle Book*? Baloo, the bear, sings "All you need are the bare necessities, the simple bare necessities of life" playing on bear/bare and affirming that nature provides all our needs. Read and critique Tavin and Anderson's (2003) article on Disney accessible on electronic reserve. On ANGEL's "REPRESENTATION" message board under "Lesson," identify the authors' position and discuss with reference to the reading and specific examples how different races and gender are represented in Disney movies.

Evaluation: Full credit for articulating how you learned the meaning of symbols, signs, and various visual conventions to understand how different races and gender are represented in visual culture; and that you critiqued Tavin and Anderson's (2003) argument with specific references to the cross-cultural exchange.

Cross-cultural exchange can break down stereotypes and generalizations and bring about awareness of those perspectives held about you. In a dialogic setting, stereotypes are both revealed and challenged. For example, the statement by a Korean art teacher "But when I grew up more, I was wondering about why White people use force when they want to obtain something" (K2, October 8, 2004) presents a view concerning White people that is seldom heard within classrooms of predominately White students. Discussion continued concerning the strategies employed by people in general, and particularly White people in the United States, to obtain land, corporate control, money, goods, and social advantages—and the role of visual culture as consumption strategies.

Personal testimonies of real struggles remove the abstraction of racism and sexism, such as when a Korean student shares that her "parents think that boys are more special than girls no matter how good at study" (K3, September 28, 2003). Such issues are connected to lived experiences. When representations in widely popular media, such as Disney animated films, perpetuate oppression that is acknowledged in personal lived experiences, then critical interpretation is achieved. Furthermore, sharing the impact of such ideology with others of privileged status can begin to shift the criticality to social action for equality that is not premised on sameness or normalcy, but on difference.

DIFFERENCE

The "Difference" assignment was presented as follows:

Rudyard Kipling authored the tales told in Disney's (1991) *Jungle Book* animated film. Kipling (1865-1936), in his poem *Ballad of East and West* stated, "Oh, East is east, and West is west, and never the twain shall meet" (Kucich, 2003). Korean American artist, Nam June Paik, who has lived most of his life in New York City believes that his life integrates East and West, and that his artwork helps people understand different cultures. Paik's video "Bye-Bye Kipling" (1986) communicates the different cultures that are part of him (Mellencamp, 1995).

Consider the possibility of cross-cultural understanding. On ANGEL's "DIFFERENCE" message board found in the "Lesson" area, write about cultural values, beliefs, and attitudes expressed in specific visual culture (i.e., in popular, everyday, pervasive, and/or society's highly valued imagery) that is part of your life but that differ from your own cultural beliefs.

Evaluation: Full credit for contributing to the exchange of different viewpoints of cross-cultural experiences by discussing cultural val-

ues, beliefs, and attitudes expressed in specific visual culture that is part of your life but that differ from your own cultural beliefs.

Recognition of shared experiences brings people together as a supportive community. A Korean art teacher expressed support and shaped the community with her comment, "Suzanne! I read your reply and absolutely agree with your opinion. In Korea, like America, there are a lot of people who are not happy for many reasons" (K3, October 9, 2003). The conversation continued in a way that acknowledged similarities across cultures, and how each found ways to empower self amidst the cultural narratives to which they do not ascribe.

I carry over some comments from prior semesters in each of the forums on Interpretation, Representation, and Difference, especially those from backgrounds that differ from students in my courses. I also invite other art teachers or students to join each semester to continually expand on the cross-cultural exchange of perspectives on visual culture. Semiotic art educator Debbie Smith-Shank posits "we come to know all signs better through the process of community dialogue" (2004, p. vii).

PERSPECTIVES SHARED OVER TIME

Besides cross-cultural exchanges, I design my courses so that perspectives are shared over the duration of the course to encourage deeper reflectivity on one's evolving views from the exchange with others about the readings. I elaborate in this section on how I do this by focusing on a graduate course I taught Spring 2004 at Penn State, titled "Artistic Creations & Theories of Knowing." In this course, 12

graduate students posted on ANGEL by noon the day prior to the evening course—messages that included a critical response to the readings, a question raised by the reading they would like to discuss, and reflections on the relation of the ideas in the readings to their life and art. Since the first message by each was posted about 24 hours prior to class, not only did I have a chance to read the perspectives of all course participants, but also they dialogued with each other about the readings prior to class. At each class I brought the 30-page dialogue generated from that week's reading highlighted by me for easy reference to facilitate discussion. After the class session, I wrote further questions and comments based on the in-class discussion and provided a synthesis of issues and ideas raised, which I posted on ANGEL. This served as the material for the end of the course reflection papers in which students were asked to synthesize their thoughts on art as a way of knowing. I provide two excerpts from student reflective papers as an example of the educational impact on students when they revisited the dialogue at the end of the 16 weeks of the course:

> Critical inquiry by class members offered an amalgam of dialogs in the environment of the online discussions. Through varied topic explorations of knowledge in A ED 570, the cyberspace responses reveal an interface space. As these in/between interface spaces emerge, they negotiate the context of knowledge across public and private spaces extending world/views into a transformative circular narrative.
>
> In concluding my reflection on this semester's online postings I think that the importance of this learning experience was not just about the topics that were discussed and knowledge gained through those readings but in the

format itself. Through the interaction of these postings true engagement of the topics and an attempt to counter ignorance of those topics has been documented.

SHARED PERSPECTIVES ABOUT TEXTS

The 12 students in my Spring 2004 course, "Artistic Creations & Theories of Knowing," also dialogued with 17 students in Professor Smith-Shank's graduate Women's Studies course at Northern Illinois University (NIU) about a film, *The Handmaid's Tale*,[7] that both classes watched in their separate locations. Both classes also read an article that the NIU professor and I co-authored, "Who's in Bed with the Handmaiden?" (in press) concerning an interdisciplinary approach to art education in a counter-response to a view expressed by some art educators since the 1920s, which continues into the twenty-first century, that art should not be a handmaiden to social studies.

Adding others outside the group piqued interest in extended discussion beyond the time period of a class session and broadened the range of perspectives. I also noticed a tendency not to conform to a single "groupthink" perspective, but instead they comfortably espoused passionate and diverse perspectives. And, most importantly, they responded to what others wrote. The following excerpts for this dialogue are an example of active listening and responding to each other:

> I agree with your ideas about color coding. Strange how we know instantly what it all means—the filmmaker is aware of how we have been programmed. I suppose another metaphorical idea was represented by the powerful "Commander" played by

Robert Duval. Obviously a man so powerful could never be seen as impotent (infertile), so let's not even bother testing the boys. (male PSU student)

I think that the colors in the movie do function more on the level of symbolism than that of metaphor, although they do, as Steve said, rely on an audience association with what they symbolize.… I was appalled to learn that Viagra is covered by all insurance, while my [birth control] pills are not! I find this similar to Robert Duval's precious fertility/masculinity—an impotent male's health condition is considered more medically valid (even though I would think that taking Viagra is in fact a choice) while a female's serious condition that needs medicated [sic] is relegated to a supposed promiscuity. (female PSU student)

I was upset to hear that Viagra was covered but the pill still wasn't. What century are we living in—sometimes I think we are still living in a man's world. (female NIU student)

There are some critical writings by feminist lawyers who argue that if normalcy was understood as premised on women instead of men, the laws would be very different. Laws are based on what is within the range of what society has determined as normal, and baby-producing bodies are not in that range. *The Handmaid's Tale* calls such bodies the chosen ones. Being "special" does not necessarily provide equality. Equality comes if you fit within the societal perception of "normalcy." How we know ourselves, how we are informed and misinformed about who we are, has a lot to do with societal perceptions of normalcy. (PSU professor—me)

I decided to watch the film again, to get a second look at the color. The color of everything is so pronounced, kind of structural. (female PSU student)

I have to disagree about the existence of the handmaid as solely a vehicle for reproduction. That might be the party line, but I don't think the Commander saw that as her sole purpose. (male PSU student)

I wonder how much people are actually controlled or deluded. Could it be more apathy than anything else.… I can't help but think backward from current events to the movie. (male PSU student)

I wanted to bring up the point you made about the textbooks your friend's daughter uses in school.… How does a person go about deciding when someone should think for themselves. Is it when that person thinks and acts exactly like the teacher? (male PSU student)

I think that would be similar to the power that is being shown in the film. I definitely do not think that the students should act and think like the teacher—that is still power and control but in an indirect way. The students need to have their own voice based on the knowledge they have acquired from the teachers. (female NIU student)

The idea of the handmaid in her silence and struggle to be within the confines of an oppressive dictatorship represents something for me. As an educator, I often find myself seeking desperately to find ways in which I may be true to my own beliefs about learning and my own creative self, while at the same time somehow being accepted within an institution that silently strikes out at anything or anyone who might be seen as not conforming. (female PSU student)

You touched on an idea I thought of throughout my viewing of the film … I kept thinking of how Kate exercised her agency through the (limiting and oppressive) role of the handmaid. Her "self" was not entirely crushed

and she seemed to work with the agency and advantages that she could in the situation. I, too, felt that this was like teaching art. (female PSU student)

SHARED PERSPECTIVES IN THE CREATION OF A PERFORMED VISUAL POEM AND ART BOOK EXHIBITION

Sharing perspectives to generate ideas for a collaborate art project began with a visualization I scripted and slowly read that asked students to look into a metaphorical mirror to see themselves as they are, followed by a series of questions concerning what they focused on, such as their physical self, actions, or emotions. They then looked again into the mirror to imagine what they would like others to know about them. From the visualizations that students shared in class we discussed metaphoric meanings. Students further developed a verbal or visual metaphorical self-image that they posted on ANGEL.

After the class read Margolis' (1998) article, "A Theory of Culture and Emotions," they analyzed each other's self-metaphor images by looking for a "culture's vocabulary of motives, emotions, and role relationships" in the combined grouping of self-images (Margolis, 1998, p. 135). We discussed the images according to how cultural residues were kept alive and/or thwarted by what was included in the image. We discussed how the conditions of others are part of the self-images. Figure 1 is an example of one of the self-metaphors.

Some interpretive ideas about the self-metaphor in Figure 1 included that a window is a medieval symbol of desire, which raised questions about whether this is a symbol of a desire for knowledge or
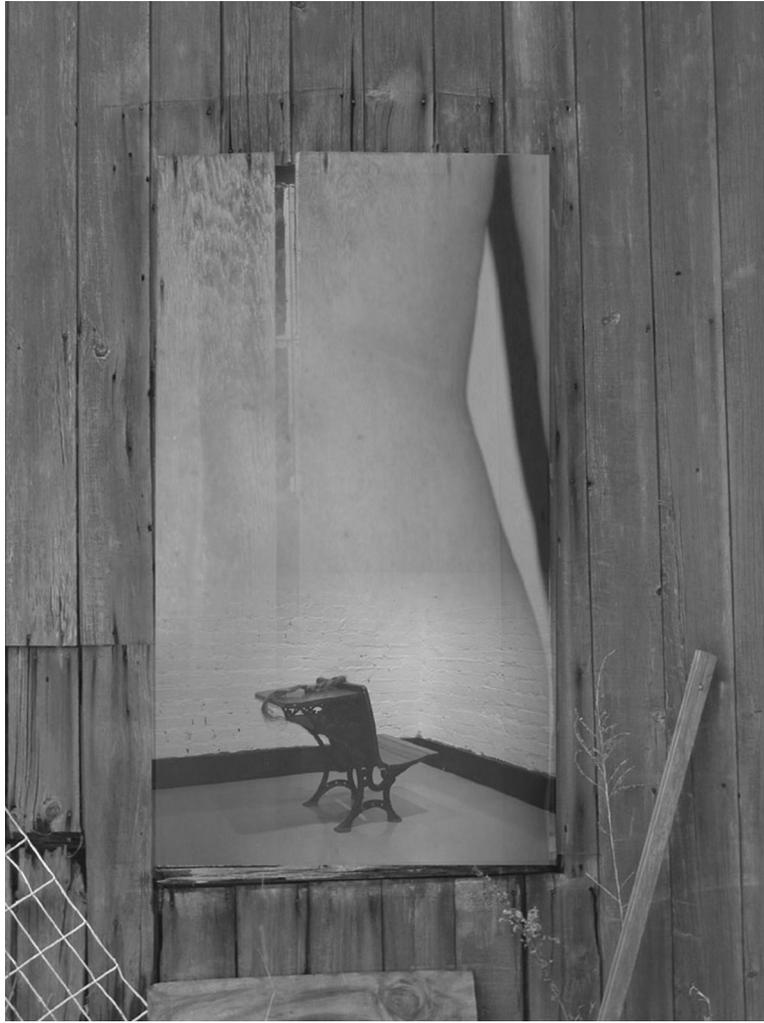
Figure 1. Self-metaphor by Maryellen Murphy, 2004.

a desire to recapture youth? The desk has abandoned the institutionalization of rows. The image seems to address the silencing that schools or educational institutions often create through standardization and expectations of conformity. A cut-off braid of hair might refer to youth, seduction, a prized possession, and a source of identity. The human back joined with the wooden schoolhouse frame could indicate the forces of education on every aspect of knowing who we are. Role relationships conveyed in the image suggest the tension between conformity and independence to societal norms and sanctioned knowledge. We noticed the visual culture vocabulary of openings and tensions between inside/outside and strong/vulnerable. In the layering or merging of body and wood, the image itself could be a literal representation of metaphor since the "principle subject is 'projected upon' the field of the subsidiary subject" (Black quoted in Ferrari, 2002, p. 64). I encouraged all to continue visualizing their metaphoric self as a means of self-reflection, which began the search for content for the collaborative art project. By producing a form to represent a metaphorical self each selected and disregarded features that can be explored for how these choices inform and misinform, and create both knowledge and ignorance.

As a next step to brainstorm the contents of the collaborative artwork that the class intended to present at the Ethics and Epistemologies of Ignorance conference held at Penn State, they listed three words or short phrases on note cards regarding that which "misinforms how you know yourself." For example, one wrote she is misinformed through categorizations, societal views of normalcy, and comparisons. I compiled these into a chart that I referred to as "Self Texts" to suggest connections. I encouraged reading the chart vertically, horizontally, and diagonally to find larger encompassing ideas and divergences. I posted the chart in the course site and distributed it as a handout at the next class session. These initial ideas emerged more fully in the final poem and in the individual artworks as book pages.

I found from guiding other collaborative art projects that it is important to discuss beliefs about the nature of collaborations with the collaborators to share expectations and set group-formed guidelines. Each described what collaboration meant to him or her, its various forms, when it does not work, and successful collaborations. The group began by discussing readings and their content searches in the self-metaphors and how they are informed and misinformed. Following a teaching approach developed by artist Judy Chicago called *Participatory Art Pedagogy Informed by Feminist Principles* (see Keifer-Boyd, 2004) it is important to explore content prior to setting artmaking goals, which included discussing the format and media to meet those goals. Goals were modified in the process of recognizing limitations, such as time, resources, and space.

I posted *process summaries* of the discussion and decisions and asked all to do the same so that each expressed what they understood as the direction and contents of the project. I encouraged that we remain open to modifications. There was much online and offline discussion, ideas generated, and volunteers to take on specific responsibilities. Ellen Key, for example, a poet in the course, offered to create a poem from the individual statements about each book page created by the participants. We outlined tasks involved and each looked at their own strengths and those of their peers and work was distributed among the students. I formed students into groups of four and invited those in the course with a background in the visual arts to lead critiques of the artworks in the small groups by asking questions specifically derived from what artist Judy Chicago refers to as content-based critiques. To prepare for the content-based critiques I directed all to review a guide at http://www.judychicago.com/pedagogy/ that I had synthesized from research I conducted with Judy Chicago about her teaching methodology. The main questions to guide content-based critiques are:

1. What is your goal with this piece?
2. Start by telling me what you want to express.
3. Let's talk about ways you could do this.
4. How will the viewer understand it?

Everything in the artwork should be part of the meaning of the work. The meaning should be accessible, yet not simplified, so that others understand the content. The artwork should attract the viewer to look more closely and to contemplate its meaning.

I visited each group, raised some questions, and made suggestions too. Mostly, I listened and photographed the work and the group interaction. We had early-on agreed to document the process, and different members took turns at this, although the photographer in the class did most of the documentation. I looked for each person's strength and asked if they were interested in leading with that strength. Two performed the poem while the images projected large in an auditorium filled with philosopher professors from across the United States and beyond who were attending The Ethics and Epistemologies of Ignorance Conference at Penn State. Students presented to others in class information concerning one of the conference keynote philosophers that they had selected to study prior to the conference.

In January 2004, I introduced that the course project was to collaboratively create a visual response to the following questions: How do we represent ourselves? How do we know ourselves? And, how is our knowledge of ourselves informed by ethics and epistemologies of ignorance? The result, in March 2004, was the project *4″ Binding*, an 18″ x 24″ book representing a multidisciplinary dialogue exploring the ethics and epistemologies of ignorance.[8] Conference participants were invited to add to existing book pages and to create their own pages, which many did at the tables set-up with art supplies. After the exhibition and performance of a reading of the poem along with large projections of the book pages, we debriefed the collaborative art project in ANGEL and in class. Students decided to continue the collaboration beyond the course with a Website to enable paths of nonlinear exploration through the book and to build a flexible binding so that the book may travel to different sites and continue to grow. The students

conceived that the pages of the book are the opening questions in a conversation that will encompass many views, many understandings, many voices. The book contains blank pages to represent absences of knowledge within culturally-shaped spaces and is offered as a traveling exhibition of ethics and epistemologies of ignorance. Below is the poem that they created along with some of the book page images.

> Click
> Clack
> Squeak
> Ring
> Mechanisms of the elite
>   knowledge-making machine,
> Whirring gears, cranks, and
>   wheels,
> Engage in an intentional process
>   of manufacturing—
> Standardization of both meaning
>   and ignorance.
> And I receive no invitation to participate.
>
> Informed and misinformed at
>   once by the turning of the
>   machine
> And my individual turning over
>   of mind,
> I step back to contend with my
>   own shifting ideas,
> Ideas and thoughts through
>   which I come to know Self,
> Defying those who craft
>   definitions through sight and
>   outer appearance.
>
> The voices of Self circle through
>   the pores of my existence:
> Moments
> People
> Sights
> Readings
> All shaping how I see my Self and
>   my world.
>
> I search through entries from
>   handmaid travel albums,
> Noting the contrast between dark
>   pages and colorful scenery,
> And I realize that the trip to the
>   Wonderland is never innocent.
> The whirrings of the turning
>   gears never cease.
> Am I a part of a larger machine?

Examining reflections of Self in
    mirrors:
Of Society
Of Power
Of History
Of Media,
I am reminded that some Selves
    are not reflected, but stifled by
    ignorance.

This blur of ignorance:
Traditions of Shape and Size
Ethnicity and Sexuality
Wealth and Authority
Created by the turning wheels
    and gears
Obscures my vision of beauty.

Nevertheless I grasp for a clear
    vision of a truer reality:
A reality that refuses to erase aes-
    thetics of the disturbed and
    grotesque,
A reality that repudiates selecting
    the contributions of only those
    in power,
A reality that resists the influence
    of the machine's production.
I venture to rise from the hazy
    mist of assumptions,
To allow the world to leave its
    mark,
That my true Self may be freed
    from the captivity of sight.

Searching Self, I pass through the
    doorway,
The passage to alternative ways of
    understanding and knowing,
Silhouetted figures beckon to me,
    brushing past my skin,
Ghosts of the understandings and
    misunderstandings of the col-
    lective Self
Performing on and through me.

Where is my meaning?
Where is my truest Self and
    value?
The physical Self senses the world
    around me,
But in a moment, the experience
    has vanished into memory,
Captured eternally in the spiritual
    Self,
Reinterpreted in a thousand other
    meanings.

Figure 2. 4" Binding book page by Emily Baxter, 2004.


Figure 3. 4" Binding book page by Michelle Tillander, 2004.

Fading images,
textural dissolves,
stains and imprints
Allow me to consciously and
    unconsciously engage in a pro-
    cess of knowing Self.

The interchange of my artistic
    work and play
Allow for exploration, communi-
    cation,
Cutting and pasting of experi-
    ence,
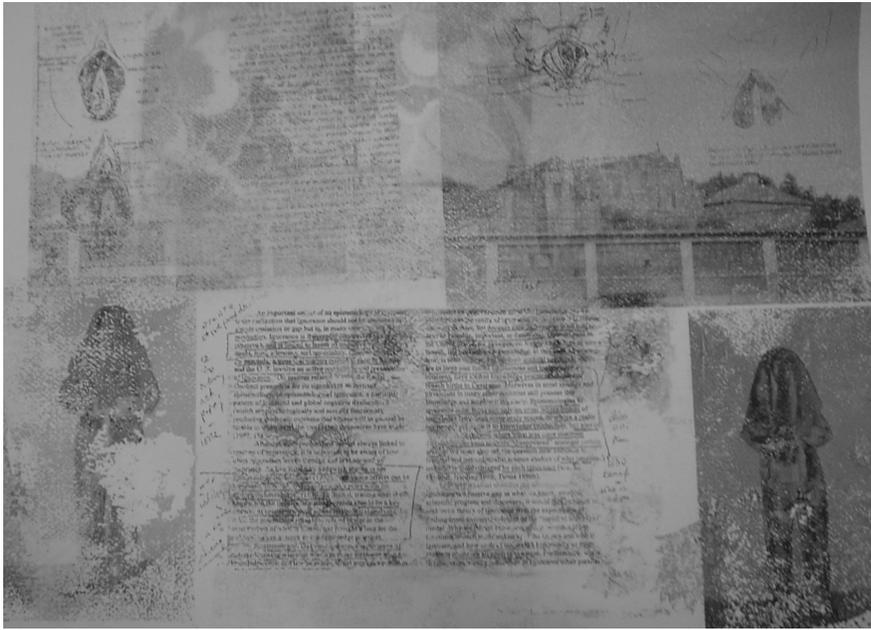
Figure 4. 4" Binding book page by Maryellen Murphy, 2004.

Figure 5. 4" Binding book page by Chiu-Jhin Chen, 2004.

Re-presentation:
Relationships of cultural residues,
memory,
and identity.
Evidence which informs and mis-
informs my thoughts.

Whizz
Bang
Click
Whir
Mechanisms of the elite knowl-
edge-making machine con-
tinue to turn,
But the ever-turning gears in Self
give evidence
That the machine will not be the
only one to leave its mark.

CONCLUDING COMMENTS

Without e-learning course tools, I could not have connected people from diverse cultures and distant locations in an exchange of perspectives that examined cultural knowledge and ignorances, and interrogated subject positions in terms of compliance, negotiation, or opposition to lived experience and social justice. I could not have students review the course dialogue to examine assumptions held at the beginning of the course and to reflect on their transformation of perspectives. E-learning course systems provided a space for a community to form and to develop a collaborative art project that continues beyond the time limits of a semester course, and a means for participants to share ideas and perspectives that I believe are necessary educational skills for most life endeavors.

NOTES

1. This article is developed from a presentation about my teaching A ED 322: Visual Culture and Instructional Technology in Fall 2003 in which I blended computer lab and Internet environments. I presented the paper in May 2004 at A New

Global Environment for Learning (ANGEL) Day II: A Symposium of Faculty Examples, The Pennsylvania State University, University Park, Pennsylvania.

2. ANGEL® is similar to BlackBoard®, WebCT®, and other course tool packages universities have adopted for full and blended online courses. ANGEL provides a Web site for each course at The Pennsylvania State University that enables students to post work, look at others' work, and communicate in threaded message boards, real-time chats, and/or emails.

3. For specific assignments and student work see the course site at http://explorations.sva.psu.edu/322/

4. The reenactment of cognitive, cultural, and physical processes to gain insight into visual culture has its origins in the branch of physical anthropology referred to as *experimental archaeology*, which is defined as the study of past behavioral processes through experimental reconstruction under carefully controlled scientific conditions. See http://www.anth.ucsb.edu/glossary/glossary.html

5. *MetaPet*, a simulation game that allow individuals to "maintain agency, or trick those in power … whether they have to do with getting through bureaucratic red tape or creating obstacles to divert authority" (Bookchin, 2002, p. 66), is online at http://dian-network.com/con/intruder/

6. I worked with Jihyun Sohn (2004), a doctoral student who studied student response to the multivocal art criticism strategy that I developed in the early 1990s (Keifer-Boyd, 1993, 1996), to construct a WebQuest: *From Disney to Cyborgs in CyberSpace*, for a course I initially developed at Texas Tech University in 1996 and continue to teach at Penn State. The course combines art making, critique, and pedagogy with digital and information technologies. I have guided students in creating WebQuests since 1998. WebQuests, originally conceived of by Bernie Dodge and Tom March are inquiry-oriented activities focused on "using [Web] information … to support learners' thinking at the levels of analysis, synthesis, and evaluation" (Quoted from http://edweb.sdsu.edu/webquest/overview.htm in Dodge, 2001). I have guided the generative and evaluative dimensions of the student-created Visual Culture WebQuests to use metaphor and analogies to imagine, create meaning, and make connections; seek multiple perspectives; expose the worldviews in which specific beliefs are situated; engage in critical dialogue; involve reflective thinking; and transcend assumptions.

7. *The Handmaid's Tale* is a film based on a book by the same title by Margaret Atwood (1986) that she refers to as speculative fiction of a future dystopia, that is, a dysfunctional utopia in which a militant religious power controls human behavior in an age of rapid sterilization due to environmental pollution.

8. Students in the Spring 2004 course A ED 570: Artistic Creations and Theories of Knowing who contributed to the collaborative 4" Binding project include: Wei-Chung Chang, Chiu-Jhin Chen, Ching-Yuan Hsiao, David Karmann, Maryellen Murphy, Ellen Key, Marissa McClure, Michelle Tillander, Wan-Hsiang Chou, Sarah MacKenzie, Emily Baxter, and Steve Williams.

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ANGEL = A New Global Environment for Learning

How to Teach Online: What the Research Says

Mary K. Tallent-Runnels, Sandra Cooper, William Y. Lan, Julie A. Thomas, and Colleen Busby

Though there are some research results to guide best practice in online teaching and learning, these studies still represent a new frontier in educational research. With many faculty members being encouraged to *go online*, there is an urgent need for a review of the early research in this area to help guide faculty members' understanding about effective ways to teach online (Broad, 1999). This article, then, provides our review of current research regarding online instruction to help faculty members make research-informed decisions regarding online course design, course management, course learn-ing environment, and course evaluation. We will provide seven helpful hints and back them up with research results.

1. PROVIDE HELPFUL RESOURCES ON THE COURSE SITE

Greene and Land (1999) explored instructional scaffolds to support cognitive functioning. They found that guiding questions helped students focus and develop their projects. Students needed real-time, back-and-forth discussion that did not allow them to ignore confusion.

Some researchers discovered that supplementary resources and organization of delivery helped students. Cooper (1999) provided online resources and course materials in folders for each week of the course and found positive results. Students could find timely course announcements, lecture notes, and chapter questions and answers. Bee and Usip (1998) found that students who used supplementary materials, tutorials, and general course information that were provided online, realized improved course performance and improved knowledge of cyberspace over those who did not use the materials.

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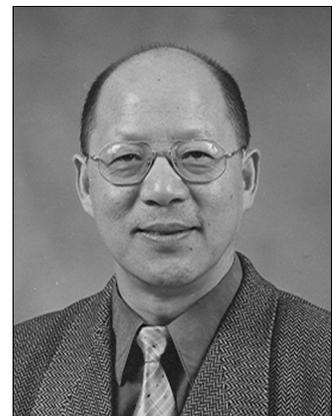
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2. LET STUDENTS HAVE CONTROL OVER THE PACE AT WHICH THEY MOVE THROUGH THE COURSE

Other research interests included pace of instruction and delivery features. The results of the research on pace were mixed. Schrum (1995) found that students appreciated being able to move through the course at their own pace with successful students moving more quickly through the course than less-successful students. Mayer and Chandler (2001) explored the benefits of a modest amount of computer-user interactivity that determined the pace of the presentation. Students performed better on transfer but not retention of material.

3. HAVE LOTS OF DISCUSSIONS

Davidson-Shivers, Tanner, and Muilenburg (2000) were interested to learn which is better: synchronous or asynchronous discussion. They found chats provided a direct immediate environment for responses, while listserv responses were delayed but more focused and purposeful. Kanuka and Anderson (1998) raised concerns about students posting inconsistent and unchallenged ideas and concluded that online interactions provided little negotiated meaning or new knowledge construction. Ahern and El Hindi (2000) shared the same concerns; they created the *IdeaWeb* to improve peer-to-peer discourse, allowing self-management of discussions by students.

Winograd (2000) explored the effect of a moderator in online conferences, developing a theory that even a low degree of moderation techniques allowed a group to form a community, as determined by the elements of camaraderie, support, and warmth. The online environment does seem to offer a unique social advantage for some students. Sullivan's (2002) research pointed to the advantage of anonymity in a networked learning environment. Respondents suggested "it's easier to be yourself if you're invisible" (p. 139) and "there is no stereotyping or bias" (p. 139). Althaus (1997) conducted a study to examine whether supplementing a face-to-face discussion with computer-mediated discussions would enhance academic performance. He pointed out that because online discussions do not occur in real time, students are able to log on and join the discussion when it is convenient, and have more time to read messages, reflect on them, and compose thoughtful responses. He concluded that students who were actively involved in the computer-mediated discussions earned higher grades than other students.

Mikulecky (1998) compared class discussions in online and campus-based versions of a graduate course on adolescent literature. Electronic interchanges were no less productive than in campus-based instruction and were characterized by the following patterns: (1) rich descriptive presentations of situations, dilemmas, and solutions; (2) detailed, thoughtful responses and counter responses to fellow students including suggestions for further professional development; (3) comments to link to one's own experiences as well as spur and synthesize new thoughts; (4) sharing of troubling professional experiences and provision of support to others; and (5) occasional debate.

Vonderwell (2003) conducted a qualitative case study to examine asynchronous communication experiences and perspectives in an online course. The instructor attempted to facilitate class discourse through e-mail and discussion boards. Vonderwell learned that students were uncomfortable about interacting with students they did not know prior to taking the course. Online instructors need to know group processes and dynamics as well as strategies of how to engage students in effective communication and learning. Therefore, it is important to establish a community of learners (Knupfer, Gram, & Larsen, 1997; Wilson & Whitelock,

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1998). Suggestions include establishing groups early, keeping the interactions high in discussions, modeling and reinforcing effective communication, identifying potential problems, and designing a plan for dealing with them.

4. PROVIDE TIMELY FEEDBACK TO STUDENTS ABOUT THEIR PERFORMANCE

Students need feedback in a timely manner so they can proceed and learn from their errors. In regular face-to-face courses, feedback can be given orally in class, written on assignments before they are returned, or sent via e-mail to students. In online classes, this can be done in a similar fashion. Students can also receive feedback in a chat room, or on a discussion board, and feedback should be as immediate as possible. During online discussion, the lack of immediate feedback from instructors can allow students to procrastinate or even withdraw from the discussion (Mikulecky, 1998). Late feedback can also facilitate poor student performance. Instead of teaching 3 hours a week in one time block, instructors must learn to teach almost daily in smaller time blocks, because students want and need individual feedback in a timely fashion.

5. PROVIDE TECHNICAL SUPPORT FOR STUDENTS (AND FACULTY NEED IT, TOO!)

Technical support in online classes can be divided into technical support for students and for instructors. With support, instructors can proceed with their instruction and also learn to help students with minor technical problems.

Although we did not find research that evaluated the effectiveness of technical support for online classes, we did find many studies whose results demonstrated that faculty want technical support for online teaching (Betts, 1998; Dooley & Murphrey, 2000; Schifter, 2001). Faculty expressed a need for course development assistance and a system of evaluation and assessment of distance education and faculty. Two studies related to instructor experiences in course preparation (Gibson & Herrera, 1999; Zhang, 1998) discussed the need for time for development of the courses. In the first study, faculty said that the preparation of courses was much more time-consuming than they had expected. They said they needed released time for course development. The researchers in both studies concluded that faculty members need assistance both during the development of the course and during the delivery of the courses.

Regarding students in online classes, few studies reported results about technical support. In one study, students did say they wanted administrative support in online courses for grade reporting, helping with scheduling courses online, online admissions, appropriate fees for online courses, and tuition payments offered online for the convenience of online students and other students (Vallejo, 2001). Administrators polled in another study believed that their job related to online learning was to facilitate delivery of high-quality courses (Husmann & Miller, 2001). Technical support would be one area of this delivery. Students do want support when they are having technology problems, and an infrastructure should exist to provide this support.

6. ONLINE STUDY AIDS AND STEP-BY-STEP PRESENTATION MAY NOT MAKE MUCH DIFFERENCE IN ACHIEVEMENT

While there are many options available that will enhance an online course, not every technique used in the traditional classroom works well online. In a study done in 2001, Mayer and Chandler conducted a study on the possible benefits of adding simple user interaction to a multimedia presentation. Some received information in a segment-by-segment presentation followed by a presentation of the whole concept, and others were presented the whole concept first followed by a segment-by-segment presentation. Results showed little difference in retention rates between the two groups but significant differences in transfer rates, indicating that deeper understanding is improved through segment-by-segment followed by whole presentations.

In another experiment, these researchers found that learners who were given control over the pacing of the learning had a significantly higher transfer rate. Incorporating student involvement through interactivity can promote deeper learning from a multimedia presentation if it is done in a theory-based manner. If a higher level of learning is desired, student control of the multimedia makes a significant difference.

Another area of concern is the effectiveness of online study aids. Maki and Maki (2000) compared students enrolled in a general psychology course online to students in traditional classroom sections of the course. Online instructors had the option of controlling the pacing of review exercises and receiving substantial data on the students' usage of the exercises. This study was done to attempt to modify pro-

crastination behavior by offering credit to those students who used the study aids throughout each assigned chapter. Some sections were given rewards in the form of mini-quizzes after previewing frequently asked questions (FAQs); other sections received rewards in the form of mini-quizzes after previewing chapter outlines. Students who were rewarded did access the FAQs pages more often than not, and those who used the FAQs pages received high scores on the FAQs-related questions on the midterm examination, but not on the cumulative final examination. Students with the chapter outline mini-quizzes did not access the chapter outline pages at a significantly higher rate than those who did not have the quizzes. Also, a significant number of the students waited until 2 days prior to the due date to access their respective pages, and did not return to the FAQs or chapter outline pages to review for the final examination at a significantly higher rate than those who had not received the rewards. Thus, the gains in examination performance were shortlived and did not show any effect on performance during the cumulative final examination.

Along the same lines of study, Schnackenberg and Sullivan (2000) designed a project to look for links between learner control and learner effectiveness. They also theorized that students who took more control would have more positive attitudes toward their computerassisted instructional programs than those under a more-controlled program, but there was no significant difference in achievement between the program control group and the learner control group even though satisfaction was greater.

7. EVALUATION CAN BE ENHANCED IN ONLINE COURSES

To investigate a persistent concern of academic integrity in online learning, researchers (Ridley & Husband, 1998) compared grade point averages (GPAs) of students who completed courses in both traditional and online formats. They hypothesized that if students cheated more in the online courses, their GPA should be higher in the online courses than in courses taken in traditional classrooms, but they found just the opposite. Students' GPAs in courses in the traditional format were higher than those in online courses. The researchers concluded that the concern over academic integrity was either exaggerated or unfounded. However, the conclusion was not convincing because of confounding variables uncontrolled in the comparison. The GPA's could be based on different courses students took or different tests instructors used to measure students' learning in the two instructional environments. The higher GPA in regular classrooms could also be the result of superior quality of instruction of courses taught in regular classrooms. The conclusion sounds especially suspicious when the prevalence of online cheating and plagiarism was reported by faculty and administrators engaged in online instruction (McAlister, Rivera, & Hallam, 2002; Olt, 2002).

We may need to adapt a new perspective when we plan and administer evaluations in online courses. In traditional classrooms, evaluation is used for promoting learning, guiding instructional decision making, diagnosing learning and performance problems, and determining what students have learned (Ormrod, 2003). Teachers and students are most likely to be interested in the function of deter-

mining what students have learned. Because information obtained from the evaluation process usually is used for summative purposes or making judgmental decisions, fairness of the evaluation is the biggest concern of teachers and students in regular classrooms, therefore, standardization of instruments and the process of the evaluation is very desirable from a traditional perspective of evaluation.

In an online environment, instructors at least partially lose the standardization of content and format in evaluation, and therefore need to alter their view of how evaluation is done for their instruction. The formats of assessment that they have been using in traditional instruction, such as term papers and multiple-choice questions, may not provide valid and comprehensive information on students' learning. Educators have been trying a great variety of evaluation practices in the online environment, and what they reported in research papers features one thing: multiple criteria.

The multiplicity of online evaluation is reflected in domains covered in the evaluation. Educational psychologists have categorized students' learning into different domains. For example, Bloom, Englehart, Furst, Hill, and Krathwohl (1956) proposed classifications of learning in cognitive, affective, and psychomotor domains. Gagné (1985) divided learning outcomes into five domains of verbal information, intellectual skills, cognitive strategies, attitudes, and psychomotor skills. In traditional classrooms, evaluation is usually focused on the cognitive domain; that is, students' acquisition and use of information. For online instruction, instructors broaden the scope of their evaluation to cover other domains too, especially the affective and psychomotor domains.

The cognitive domain is still the area with the highest interest for

teachers and students in online courses. Traditional tools of evaluation, such as multiple-choice questions and in-class examination, are still commonly used in the online environment (Dellana, Collins, & West, 2000; Gilliver, Randall, & Pok, 1998; Hiltz, 1993; Maki, Maki, Patterson, & Whittaker, 2000; McManus, 2000; Smith, Smith, & Boone, 2000). However, new methods have been created for evaluation of learning in the online environment. Using software that keeps all correspondence of instructors and students during instruction and learning, educators analyzed depth and breadth of students' cognitive processes in learning. For example, Davidson-Shivers, Tanner, and Muilenburg (2000) classified students' online discussions into substantive (related to topics and contents) and nonsubstantive categories (nonrelated to topics and contents) to see whether students spent their online learning time efficiently. Kanuka and Anderson (1998) investigated the depth of the online interaction of students into five levels from the shallowest process of sharing information and opinions to the deepest process of explicitly phrasing agreements, statements, and applications of new knowledge. They found most students process information at the shallow levels. These online interactions did not help them construct new knowledge.

In addition to the learning outcomes in the cognitive domain, researchers were also interested in learning outcomes in the affective domain, such as students' attitudes, satisfaction, and perceptions of the online environment. Some educators described students' satisfaction with their learning experience in online courses and perceived effectiveness of different learning activities used in online instruction (Althaus, 1997; Edwards & Fritz, 1997; Hansen & Gladfelter, 1996;

Richards & Ridley, 1997). They found college students generally showed positive perceptions of learning outcomes and the learning environment of online courses and wished the same or similar online materials or activities were available in other courses. More often, researchers investigated how learners' satisfaction was related to learners' characteristics and features of online instruction (Bee & Usip, 1998; Gunawardena & Duphorne, 2001; Mortensen & Young, 2000; Swan et al., 2001; Wells, 2000). Other variables in the affective domain, such as computer anxiety, were also investigated in research (Maki et al., 2000).

In the psychomotor domain, researchers took advantage of the fact that computers automatically recorded the interactions between the user and the machine to study students' learning behaviors in the online environment. Taraban, Maki, and Rynearson, (1999) observed how students in online classes spent their studying time and compared it with the pattern of time-spending in regular classrooms. They found students in both conditions shared the same behavioral pattern of "cramming" for tests. The frequency and amount of time students log in to the Websites of online courses are behaviors of researchers' common interest (Ahern & Durrington, 1995; Taraban et al., 1999). Researchers also used computers to simulate real problem-solving situations to evaluate the procedural knowledge of students, such as using computer applications in an authentic situation (McManus, 2000) or operating in chemical engineering laboratories (Williams, Hilliard, Smith, Hoo, Wiesner, Parker, & Lan, 2002).

Some researchers (McManus, 2000; Schrum, 1995) assessed learner characteristics and tried to align their instruction to characteristics that would maximize the effec-

tiveness of online instruction. Putting a test bank or homework assignments online to allow students to have multiple attempts to complete tests or homework is a common practice in online courses (Maki & Maki, 2001). Learners' prior experiences in computer-related activities (e.g., e-mail, and Internet), learning style, and quality of social interactions in an online environment were commonly investigated to assist instructors in making instructional decisions and enhance students' satisfaction and motivation in their online learning (Bee & Usip, 1998; Gunawardena & Duphorne, 2001; Mortensen & Young, 2000; Swan, Shea, Fredrickson, Pickett, Pelz, & Maher, 2001; Wells, 2000). Finally, the multiplicity of online evaluation is reflected in the formats of the evaluation. Online instructors do not primarily rely on tests, examinations, and homework assignments to determine students' learning. Questionnaires administered in online courses and correspondences between students and between instructors and students provide instructors with enriched information to evaluate not only what students learn but how they learn. It is worth noting that the content analysis of students' online correspondences (Kanuka & Anderson, 1998; Muilenburg, 2000) is a unique format of evaluation for online instructors. Not only did the researchers demonstrate that analysis of online correspondences revealed depth and effectiveness of students' learning process, they also provided useful references for analysis, such as classifying the content into substantial (relevant to learning) and unsubstantial (irrelevant to learning) categories (Muilenburg & Berge, 2000) or into different levels of knowledge construction (Kanuka & Anderson, 1998).

BENEFITS OF THE SEVEN HELPFUL HINTS

Currently, there are many writers telling us what they used in their classes that they believed worked well. Books are published about how to teach online, but much of the literature we reviewed did not have a foundation based on sound research. Our seven strategies are easy to apply in online courses and are based on empirical evidence that they work well. We hope our work will enhance the experiences of online learners.

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Donning The Wizard's Hats: Online Students Learn to Teach Online

Jane Zahner and Sabrina J. Sterling

Many teachers are initially exposed to online education as students in graduate courses. They likely must develop new competencies to be successful learners in the online environment. Increasingly, these online students have the opportunity to become online instructors in virtual K-12 schools or community colleges, or at least to offer supplementary Web-enhanced instruction to their traditional students. Success in online teaching requires specific competencies, and training is not generally available to K-12 teachers. This article suggests ways that college instructors can help develop online teaching competencies of students by employing creative teaching and interaction strategies within content courses. Modeling good online teaching is important, but should be supplemented by direct instruction in online teaching techniques, and meaningful opportunities for students to take on the online teaching role. Important outcomes for the graduate student could include greater understanding of teacher/student roles in online instruction, more marketability and flexibility in teaching jobs, increased confidence and knowledge to act as technology leaders in their schools, and a more highly developed critical eye toward offerings of virtual schools. Upon completion of graduate degrees, these teachers may also become valuable partners as adjunct faculty or online course facilitators in teacher education programs in colleges and universities.

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INTRODUCTION

The online instructor can seem like the Wizard of Oz to students. More than in a face-to-face setting, the skills and processes necessary to deliver online instruction are shielded by the curtain of the course management system and, in the best cases, obscured by the ease with which experienced online course designers make available the course components. Most students do not care to go backstage but, increasingly, online graduate education students are interested in pursuing the possibility of teaching online in virtual high schools, grade schools, or community colleges.

Many teachers will have the option to teach online in virtual high schools or community colleges, as well as to offer Web-enhanced instruction at all levels. But how do they learn to take over the controls of "Oz" behind the curtain? This article will describe three methods of involving graduate students in online course design without offering a dedicated course in online instructional design. Peer-to-Peer, Big Sister, and Action Research are three online teaching inclusion models that have been used to develop competencies needed for online teaching within the context of online graduate content courses.

Virtual high schools are, virtually, everywhere. The report of the Peak Group, *Virtual Schools Across America: Trends in K-12 Online Education 2002,* (as cited in DeSchryver, 2004) identified 88 K-12 virtual schools and estimated the total number of students to be 275,000 in 2001-2002. At least 14 states have state-sanctioned, state-level virtual schools in place, and there are indications that more than 50% of U.S. secondary schools are offering online courses or exploring doing so in the near future ("Seven Things," 2000). Other types of organizations that offer virtual schools include college and university-based high schools, consortia, local education agencies, charter schools, and nonprofit and proprietary private schools. While the students attending these schools represent only a small proportion of all high school students, rapid growth is expected. One study projects a tripling in online students over the next 2 years, while another predicts a long-range growth rate of 40% per year ("Seven Things," 2000).

With the increase in students, there will be an increase in the need for trained teachers. Part-time and full-time online teaching is already an option for many K-12 teachers. Those who can demonstrate online teaching skills will be in demand as these K-12 virtual school programs continue to grow (Bowman, 2002). Nearly all the virtual schools offer and require specific teacher training. Established schools are taking various approaches, using online training or in-person training, from in-house or vendor capabilities. Concord Virtual High School (VHS), a consortium, created an extensive 26-week online teacher training course. Florida VHS, on the other hand, conducts in-depth teacher training workshops face-to-face. Vendors such as CLASS.com, Inc. provide on-site teacher training workshops, as do eCollege, Lotus, and other vendors. On-site, virtual, and mixed-method approaches all appear to be effective (Clark, 2000).

Intuitively, it seems that it would be important for online teachers to have been online students at one time. Leslie Bowman has worked in the Online Teacher Training Course for the Michigan Virtual High School. She reports high standards for quality of instruction and teachers. According to Bowman, the teacher training course indicated a "belief that in order to have successful online students, there must be successful online teachers who have also been online learners themselves" (Bowman, 2002).

There seems to be an opportunity for teacher education students to develop online teaching competencies at the same time as they are developing online learning competencies. There has been much written about the specific competencies needed for online teaching, mostly centering on technical skills along with moderating and facilitating discussion and chat groups (Kearsely, 2000; Rosenberg, 2000). Maor (2003) posed a "four hats" metaphor of pedagogical, social, managerial, and technical actions as a useful way to think about the wide range of these competencies. She examined the activities of an online teacher in relation to creating a learning community. When wearing the pedagogical hat, an instructor asks questions, provides instruction, stimulates discussion through probes, gives feedback, synthesizes comments and provides links to outside resources. Donning the social hat involves communicating, supporting, and setting a positive tone. The managerial hat requires course and unit design and oversight of student work. When wearing the technical hat, the instructor helps and guides technology use.

Competencies in all areas cannot be developed in the context of a single graduate class. However, in each of the following models, students are able to peek behind the curtain, try on the wizard's hats and take a reflective look to see if the hat fits. These course-integrated experiences may guide them toward or away from future online K-12 teaching opportunities.

SETTING

The context of the instructional setting is a Department of Curriculum and Instructional Technology in a state university of approximately 10,000 students. The department offers master's (MEd, 5th year) and education specialist (EdS, 6th year) programs in instructional technology, and a doctoral program in curriculum and instruction. The education specialist program is 100% online; the other programs include both face-to-face and online courses. WebCT is commonly used as the course design and management system.

TEACHING TO TEACH ONLINE: PEER-TO-PEER MODEL

In our online courses at all three program levels, it is common for groups of students, or individual students, to be given responsibilities

to moderate a discussion group, post a case study, or present the results of a project for peer review. The Peer-to-Peer Model is used within a course with all of the students at the same program level. To carry out these activities, students don't necessarily have to have access to *backstage* in the course, but they do benefit from direct instruction and expert review of their activities prior to posting. I have found that teaching to teach only by example works even less well online than in a face-to-face setting.

E-moderating has been likened to driving a car, with the moderator driving the discussion (Salmon, 2000). The moderator speeds up or slows down the discussion as needed, goes to interesting places, and backs out of dark alleys and one-way streets when needed (Innovation in Teaching and Education Technology Fellowship, n.d.). Like driving, students must be taught how to moderate to do it well—learning by trial and error in public is not pleasant for either the teaching peer or the learning peers.

I require my students to read and follow recommendations for e-moderating (Salmon, 2000) and give them practice assignments in small (four to five), private groups that are preferably self-selected. Each student takes a turn moderating a discussion on a course-related topic; I join in as a *ringer* to challenge them with more difficult situations. When I think that a student needs specific guidance that might be embarrassing or sensitive, I reply privately to him or her. I follow recommendations by setting an easy initial question and keeping the structure simple (Innovation in Teaching and Education Technology Fellowship, n.d.). I try to stress the importance of social comfort, camaraderie, and mutual caring. Once the students have become comfortable and effective moderating in the small groups, I assign them e-mod-

eration duties within a larger group (12-15) and continue to monitor their performance and give both public and private feedback. I encourage students to ask for my advice about how to handle sensitive situations before posting any message.

There are technical skills that support the e-moderation skills. I teach the students simple HTML codes that can enhance the interest and readability of messages within WebCT. For example, the moderator for a particular discussion thread always writes in blue, allowing his or her messages to stand out for the rest of the class.

Grading discussion activities can be difficult. My approach is for students to create a reflective captioned artifact at one or two points in the term. They select messages of their own, mine or of other students that have contributed significantly to their learning. They then compile those messages, save them in PDF format, and do a reflective analysis of the artifact. They add comments and other graphic features that guide me in understanding what the compiled messages mean to them, and how they affected their learning. I then grade the resulting paper as a whole, rather than having assigned grades during the activity. This *deferred* grading works well for me and seems to allow the students to bring together their thoughts for the term.

In a similar way, case study or scenario construction and response can and should be taught. Posting of a student project (e.g., narrated or annotated PowerPoint, movie, WebQuest) for instructional use by other students can be extremely valuable—but only if the peer posting has had adequate expert review and been instructed in how to clearly write the directions for use (e.g., deadlines, grouping, where to post, who to ask for assistance). If the goal is to have students practice

as effective instructors, they must have the tools and the incentives to offer effective instruction. Otherwise, you will end up mediating at best, or doing the teaching with less-than-adequate instructional materials at worst.

Peer-led activities can go beyond the types described above. However, when students are teaching their own peers (all in the same class), it is important to assure quality, and to inject your own expertise. It's also important to bring to the students' attention that they are learning to teach online. An excellent project may be for them to develop an instance of online instruction that could be used with students they teach, and to have them do formative evaluation with their own students. They may have access to a course management system through their own schools, or a free system on the Web may be used.

TEACHING TO TEACH ONLINE: BIG SISTERS MODEL

The Big Sisters Model is employed within an online course with students at different program levels. I'm sure that big brothers could do this as well; but so far all the students I've tried this out with have been women, hence the name. My Big Sister model involves enrolling students at a higher program level in a course at a lower program level as unofficial teaching assistants (we don't have that designation at our university). Students earn elective credit in the class, work through all of the content, and carry out teaching tasks assigned by the instructor. Some of the tasks are administrative, some facilitating, some design-oriented, and some independent and self-contained.

The teaching assistants were first required to fully explore and map

all of the functions they had available to them as students. Subsequently, they were given teaching assistant access and designer access, and continued to map the functions. In order to learn the administrative and technical skills of WebCT out of sight of the students, private *playspaces* were created for each of the teaching assistants. The playspace consisted of a blank organizer page released only to that one student. They had designer access and could build their own course within a course, starting from that page.

The last time I employed this model, we were using a version of WebCT that had limited access levels. During the first 2 weeks of the course, when the teaching assistants were developing their technical skills, I was attentive to privacy issues. No grades or student numbers were available to the teaching assistants (TAs), and all student work and feedback was public.

Activities were carefully scaffolded over the course of the term, with a requirement for the teaching assistant to show mastery of a skill before going on to a higher skill. The culminating project for each teaching assistant was basically *running* the class for a week, attending to all duties during that time. The Big Sisters kept reflective journals, and constructed reflective captioned artifacts that demonstrate growth in online teaching skill over the term.

It was a challenge to maintain essentially two classes in one. However, the benefit and goodwill generated made it worth the effort. The teaching assistants were experienced practitioners, working as, respectively, a library media specialist and a technology coordinator. The assignments they developed concerned copyright and computer ethics, and demonstrated strong relevance for the school setting. Each was well done, and has been incorporated into the course as learning objects.

Throughout the term, the TA's and I met in a private discussion group. We discussed teaching and learning issues, and they told me what they were reading in the literature. We had many teachable moments, such as one in which I reprimanded the entire class for not completing an assignment on time. I did not mean for the TAs to complete the assignment but they got the message along with everyone else. After apologies all around, I was able to ask them what they thought of the tone and language of the reprimand. This led to a series of exchanges with the TAs in which I posed *sticky situations* and asked them to write possible responses. This serendipitous exercise homed in on one of the most difficult parts of online teaching, affective communication. As one of the students wrote at the end, "It was so exciting and scary to watch as the online students worked on the assignment I had designed. Even though we'd reviewed and reviewed it, the directions still weren't as good as they could be. I'll have to get a lot better to be able to get together a whole semester's worth of assignments!"

TEACHING TO TEACH ONLINE: ACTION RESEARCH MODEL

As indicated earlier, our department has multiple program levels. In this model, a student action researcher was in the same program as her research subjects, but was at a much more advanced point in the program. At the education specialist level, students are required to conduct an action research project and report the results in an article in the *Action Research Exchange*, a locally-housed online journal. Students assemble their research proposals, literature reviews, articles, and other documentation into an electronic thesis as the final fulfillment of degree requirements.

One thesis student indicated great interest in both online instruction and problem-based learning (PBL). She had been exposed to online PBL in the first course of the education specialist program. She returned to this course five semesters later to implement a more elaborate online PBL as her action research project for her EdS thesis. Developed based on the guided design model, *Digital Dilemma* addressed computer ethics as it applies to music file sharing on the Internet. The Website can be viewed at http://www.sabrinasterling.com/pbl/

The study was designed to measure not only the effects of the online problem-based learning project on graduate student achievement, but to develop a rich description of students' experience during the instructional process. For the full results of the study, see the student's article in the *Action Research Exchange*, "Online Problem Based Learning" by S. J. Sterling (2004).

The challenges of simultaneously teaching and researching for both the thesis student and the course instructor were enormous. The design and development of the problem-based learning module was completed in the previous semester. The PBL project was designed to meet specific course objectives, and included assessments to measure individual and group achievement. The multimedia, self-contained module was housed on the student's own Webpage and linked to from the online course. The design included discussion activities that made use of the threaded discussion areas of WebCT. Prior to the beginning of the course, the student and instructor worked together to decide on duration and timing that would support both the course objectives and facilitate the completion of the

Figure 1. The Digital Dilemma Website authored by Sabrina J. Sterling. http://www.sabrinasterling.com/pbl/

project model along with the literature describes the process as cumbersome for both teachers and students in the initial stages" (Sterling, 2004, p. 8).

She learned about the importance of being an online teacher as well as a designer of online instruction, summed up when she wrote, "I must confess that I designed the intervention with the belief that I was going to be able to create the ultimate online learning experience. In the back of my mind I had convinced myself that with the right bells and whistles, the students would be able to work without my assistance"(Sterling, 2004, p. 8).

The learning continues, as the student is now teaching an online course as an adjunct faculty member. The professor who designed the course she is teaching and I are acting as mentors. In a recent e-mail, she asked about handling students who did not show up on a timely basis. She said, "I don't want them to think that I am a spy, but it does have me concerned. Any thoughts?" My voice of experience replied, "Send a short and friendly e-mail expressing your hope that all is well. This does three things—let's them know you've noticed their absence, creates a record of your concern, and encourages them through friendliness." It is great fun to have someone to whom to give these hard-won pearls of wisdom!

CONCLUSION

Many teachers are exposed to online courses as learners in graduate courses. They likely were not taught this way earlier in life, and so have to develop a number of competencies to be good learners in this setting. As online instructors, we should not limit the students to learning to be learners when we can also enhance and extend their teaching skills through modeling, direct instruction, and sharing the teach-

thesis in accordance with departmental and university deadlines.

An action researcher seeks to gain insight and develop reflective practice, along with goals of effecting positive changes in school environment and student outcomes (Mills, 2004). The action researcher is not required to stay outside, but can be a participant in the study. The thesis student's research questions reflected this perspective. She did want to look at the effects of the PBL project on individual and group achievement, but she also focused on formative evaluation issues such as what issues would arise, which resources the students would find most useful, and how the project could be improved. Most importantly, she wanted to understand the experience of the students, of herself as designer/facilitator, and even of the course instructor.

At the beginning of the term, the thesis student *lurked* in the class, forming impressions about the students from their postings. Based on

her impressions, she suggested groups that she thought would be functional. The instructor formed the groups and introduced the thesis student to the class. They were informed that everyone would be required to participate in the PBL project as a standard part of the course, but that they could opt out of their results being included in the study. The instructor assured the students that grading was her responsibility.

The thesis student found out many things that we who regularly teach online know. She observed that things did not always go as planned. She found that students do not read instructions. She realized that the choice of topic (file-sharing) was more foreign to the graduate students than it was to the fourth grade students who had served as her trial users. She had a hard time allowing the PBL process to unfold gradually without her intervention. As she reflected at the end of the project, "Trust the process. The problem-based learning

ing role with them. As teachers experience and appreciate the pedagogical, social, managerial, and technical aspects of online teaching, they can make informed decisions about interest in pursuing online teaching opportunities. They will become more marketable, and will become better and more critical consumers of virtual schools. Teachers can become valuable partners as adjunct faculty, adding their background and experience as facilitators in courses they once took. Even if the students decide not to pursue online teaching opportunities, the activities could still be worth the effort. Instructors and students often interpret online experiences differently; giving the students a taste of teaching online may help us all.

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"THE ONLINE INSTRUCTOR CAN SEEM LIKE THE WIZARD OF OZ TO STUDENTS. MORE THAN IN A FACE-TO-FACE SETTING, THE SKILLS AND PROCESSES NECESSARY TO DELIVER ONLINE INSTRUCTION ARE SHIELDED BY THE CURTAIN OF THE COURSE MANAGEMENT SYSTEM."

—JANE ZAHNER AND SABRINA STERLING

Developing E-learning Activities

Ryan Watkins

I maginative ideas can lead to engaging, interactive, and meaningful learning experiences … and this is equally true for learners in either the traditional classroom or the online classroom. Creative ideas are not, however, always easy for us to come up with when we are designing, developing, or teaching online courses. While most of us can see the benefits of including engaging activities in our e-learning courses, the ideas (and the details) for how those can

be developed and integrated often escape us (Watkins, 2005).

To introduce learners, stimulate discussions, increase interactions, challenge presumptions, and achieve a host of course objectives, e-learning activities can be used throughout most any online course. From ice breakers to informal assessments, and from online debates to guest speakers, we can use activities in our online courses to engage learners and develop active learning.

WHAT ARE E-LEARNING ACTIVITIES?

Online courses do not have to be digital correspondence courses that include few opportunities for interactivity and engagement. In contrast, online courses can effectively use Web technologies to facilitate e-learning that is exciting, interactive, purposeful, and beneficial for online learners.

E-learning activities use online technologies, such as chat rooms, discussion boards, or e-mail, to facilitate interactions among e-learners in meaningful exercises related to the course. Much like the activities and games used in traditional classroom training, e-learning activities can be used by

instructors and trainers to accomplish a variety of goals, such as introducing learners to one another, sharing experiences, benefiting from team learning, increasing participation, or encouraging learners to develop constructive online relationships throughout the course (Watkins, 2005).

For many e-learners and e-learning instructors, the online classroom is a new environment that requires a variety of technology skills and communications strategies that are not the same as those used in previous classroom experiences. Consequently, while developing and teaching online courses, we have a tendency to forget that the e-learning classroom can (and should) offer engaging and interactive learning experiences.

Many e-learning activities can be adaptations of the training games used in traditional classroom instruction, and other activities can use the unique aspects of the online environment to develop distinctive activities for online courses. By including these interactive e-learning experiences, you should be able to improve retention rates, increase learner participation, achieve your learning objectives, develop online learning communities, and ensure that

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your online courses engage learners, regardless of the course topic.

How Can You Develop E-learning Activities?

Developing e-learning activities does not have to be difficult or time-consuming. There are, however, a few considerations that should be made before selecting an activity to use in an online course:

a. Are the learners in the course experienced e-learners?
b. Am I experienced with facilitating interactive e-learning?
c. What technologies are available for facilitating the course's activities?
d. Do the learners have the technical skills to use these technologies effectively?
e. What pre-activity exercises would help prepare learners?
f. How much time do I want to use for the activity?
g. How much time do learners set aside for participation in the course?
h. What learning objectives do I want to achieve through an activity?
i. What other goals do I want to achieve through an activity?

After considering these important issues, you should brainstorm the types of activities that will best achieve your goals and objectives. It is often helpful to reflect on activities you have used in traditional classroom courses to achieve similar goals, and to recall some of the positive training experiences you have been through as a learner. From these experiences you can begin to list the potential activities that would be valuable in your online course.

For example, here is a short list of e-learning activities that may be helpful in sparking some creative ideas (sample activities from Watkins, 2005):

- *Let Me Introduce*: Based on an activity that is commonly used in traditional classroom courses, this online adaptation has learners interviewing other learners and posting online introductions of their partners.
- *Websites About Myself*: Taking advantage of the unique resources available to online learners, this activity lets learners introduce themselves by identifying Websites that illustrate their interests and backgrounds.
- *Playing Roles in Groups*: By assigning group members to interesting and challenging roles within group discussions (for example, idea proposer, disagreer, devil's advocate, questioner, naysayer, example giver, clarifier, tension reliever, discussion leader, note taker, online resource finder, or conflict negotiator), you can use this activity to add diversity to course discussions.
- *In the News*: This activity capitalizes on the number of newspaper and magazine articles available online to bring discussions of current events into online courses.
- *Group Blogs*: Much like course journals, online blogs can be used as an effective e-learning activity for encouraging learners to work together in reflecting on course experiences.

When you have selected an activity, either one from the traditional classroom that you want to adapt for online learners or a completely new activity that uses the unique tools of the technology, you will then want to plan for successful implementation. In planning for implementation you will want to consider the following:

a. what tasks you will have to complete as an instructor prior to starting the activity (for example, emailing out instructions, forming groups, establishing chat rooms),
b. what learners will have to do in preparing for the activity (for example, reading course materials, downloading software, identifying partners),
c. what are the logistical steps that will be necessary for both you and the learners to participate effectively in the activity (for example, when you will post the instructions, how often will learners participate, what will happen if a partner does not participate), and
d. how you will assess the participation of learners in the activity (for example, will the number of postings to the discussion board be important, will you review the content of all discussion postings, will learners summarize their interactions).

Summary

E-learning activities can turn rather dull online experiences into entertaining, interactive, meaningful, and valuable learning experiences for learners; and getting the creative ideas for online activities does not require hours of meditation. By using adaptations of activities you are familiar with from the traditional classroom, along with imaginative ideas that take advantage of the unique online technologies, you can create e-learning activities that will both excite and engage learners.

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The Law of Unintended Personalization

Craig Ullman

When unexpected things happen despite—or even because of—our best intentions, we call that the Law of Unintended Consequences. Unintended consequences might be good, bad, or indifferent; they just weren't intended. I'm beginning to think that one of the unintended consequences of No Child Left Behind (NCLB) Act is the end of the traditional role of the teacher.

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NCLB is, of course, based on bringing the idea of accountability to the school system. Rigorous and regular testing will sort out winners from losers—good school districts from bad, good schools from bad, good teachers from bad.

Whether NCLB is a good idea or a bad one is not my issue here. What interests me is what might unintentionally happen from this explosion of, and faith in, testing.

This massive increase in testing has been enabled by the growth and development of database functionality. The power of database applications, software that stores information for easy retrieval and analysis, has exploded these last 20 years, creating extraordinarily powerful new functionality. Ironically, aggregating data on a group of people inevitably results in personalization, because you can see quite clearly how the individual differs from the norm.

You can see an interesting example of database functionality with collaborative filtering on Amazon.com: "Customers who bought this book also bought…." Amazon, in real time, compares everyone who bought that book with other things they've bought, and takes the five most common matches and displays them dynamically. But that's the easy stuff.

What Amazon also does is compare your buying choices with everyone else's, lumps you into a particular category, then recommends other products you haven't bought but people like you have. In this way, they give you personalized recommendations.

Beyond e-commerce, the same trends are happening in advertising. *Targeted* and *accountable* are the biggest buzzwords in advertising now. The idea is to send ads to a person online and perhaps even TV that you already know that person is interested in, then use database functionality to make sure they've actually seen the ad.

Inevitably, this same thinking will be—*is being*—brought into the classroom. The focus on building data on student performance will lead to personalized reports on individual students. An individual student's statewide test results will be crunched and a report generated to the teacher detailing the student's strengths and weaknesses, and recommending various resources to improve those areas. Prescriptive analyses are actually quite complicated to program, but once the data have been collected,

you can bet that someone will be eager to crunch it.

Few teachers have the ability to do a prescriptive analysis of each of their students—and if they did have the ability, they certainly wouldn't have the time. If those reports are handed to them on a regular basis, with the expectation that they will act on that information, how can a teacher possibly design or even execute personalized learning strate-gies for even a significant minority of his or her students?

Teachers may end up focusing almost exclusively on being the interface between the student and the educational system, rather than an active and engaged teacher. Or perhaps "teachers" will give narrow and specific lessons to all the changing microgroups of students who've been evaluated as having the same learning issue, while a number of *grade administrators* will be in charge of making sure students complete their assignments, get tested, and go to the correct teacher for specific reinforcement.

More likely, I'm not even close and some totally different structure will be formed. Was this the intention of the NCLB program? Not at all, but something like it could very well be its legacy.
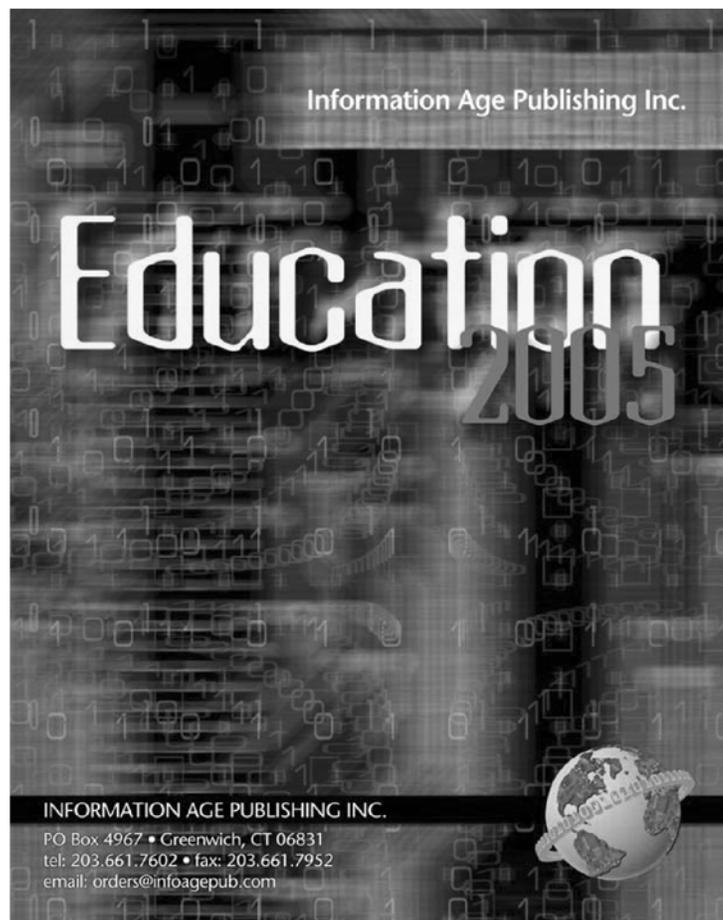
Update on Regional Accreditation Issues for E-learning

Sally M. Johnstone

I n 2000, the Council of Regional Accrediting Commissions (C-RAC) contracted with Western Cooperative for Educational Telecommunications (WCET) to create a set of Principles of Good Practice for Distance Learning to which all of them could ascribe.[1] It was a helpful document and is still being used, but 5 years have passed since

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its publication. Much has changed in the intervening years. The use of the World Wide Web has exploded. There are many more traditional nonprofit institutions engaging in e-learning for students both on- and off-campus. In addition, the number of for-profit institutions has expanded enormously. Eduventures estimates the tuition revenues from fully online programs is well over $5,000,000 this fiscal year, with over 2 million of that coming from for-profit institutions.[2]

In 1965, the original Higher Education Act (HEA) was passed by the U.S. Congress and, among other things, it authorized accredited colleges and universities to administer federal financial aid to their students. That authorization was to be renewed every 4 years. The last reauthorization was in 1998. Even though the 4-year timeline was extended, it is possible that a new version will be enacted in 2005. No one knows when something will actually occur or the exact content of that action, but there are some good guesses. In the last Congress, House Bill #4283 was introduced and several of its

features are likely to be carried over to this Congress. Many of the issues raised in the HEA relate to activities of institutions that will allow, or disallow, them from offering federal financial aid to students as well as how the Department of Education defines eligibility for several federal programs. There are some issues in that bill that would affect e-learning/distance learning and regional accreditation activities. These include:

- Repeal of the 50% telecommunications rule that would lift the limits on the number of students in—or courses offered through—e-learning;
- Repeal or modification of the 90:10 rule that requires institutions to have at least 10% of their tuition coming from nonfinancial aid sources;
- Improvement of transferability of credit from nationally accredited schools to those accredited regionally;
- Creation of a national definition of "higher education";
- Making accreditation findings more available to the public; and

- Institute disclosure of institutional performance data.

The primary issues around reauthorization relate to preventing fraud. The for-profit sector of higher education is very interested is opening-up access to federal financial aid to their students. Managers of distance learning programs at non-profit institutions are also interested in the same goal. However, the implications are not simple for regional accreditors.[3] While Congress may want strong oversight of e-learning programs, accreditors are asking what kind of monitoring is appropriate. If a large university has over a hundred academic programs and three online programs, how much effort and expense should go into evaluating the three versus the other 100? Right now, the regional accrediting associations rely, in large part, on the presence of good internal program review processes that an institution can demonstrate to everyone's satisfaction. If all the programs (regardless of delivery medium) are required to go through these internal reviews, then the role for the accrediting community in examining distance or e-learning in unique ways seems a bit redundant.

In light of the pending reauthorization of HEA and the changes in activities since the C-RAC addressed distance or e-learning, I interviewed the heads[4] of the regional associations to see what they are currently seeing and doing in the realm of e-learning. What follows is the result of these December 2004 conversations.

Institutions in the Northwest Commission on Colleges and Universities are increasing their use of e-learning and distance learning activities, but they are also becoming more sophisticated in serving students electronically. E-learning is becoming just one of a number of learning options available to students. Consequently, there is now more of an emphasis on evaluating distance and e-learning activities in consort with other teaching strategies. Right now, the standards for e-learning programs are the same as those for face-to-face programs. However, the commission is in a 2-year process of revising their standards. The Executive Director, Sandra Elman, believes e-learning is likely to be incorporated into the new standards as just another teaching methodology, but it will be up to the institution to demonstrate learning effectiveness of all their teaching activities.

In the Western Accrediting Commission for Community and Junior Colleges, distance and e-learning activities are also growing rapidly. They have just completed a manual for colleges and evaluators to help everyone think about the issues associated with a distance learning environment. The commission's evaluation teams review e-learning programs and services electronically before they even visit a campus. The incredible growth of some online programs that are available throughout the state of California are creating some new issues. The Executive Director, Barbra Beno, reports students are now able to collect credits from several institutions and apply for a degree from the one from which they have at least 12 credits. She is concerned that the institutions granting the degree may not be able to assure the learning outcomes of the e-learning students who collect credits in this way.

At the Western Accrediting Commission for Senior Colleges, staff is seeing more increases in hybrid programs that require some campus-based activities rather than strictly e-learning. However, there are two major areas of concern with the e-learning activities. The first relates to faculty and the ongoing support they need from campuses to successfully teach online. The Executive Director, Ralph Wolff, does not believe that a brief training program on how to use a course management system is truly sufficient to prepare a faculty member to offer a high-quality course online. Instead, he believes that faculty need periodic opportunities to work together to discover the best ways to engage students as institutions move to fully integrate e-learning opportunities into the curriculum. The second concern relates to the support that students need. Again, just knowing how to use the technology and software does not mean a student understands how to take full advantage of an online learning opportunity. Wolff does think that e-learning tools can be used to create better learning environments than classrooms, but few institutions have yet learned how to support their faculty and students appropriately to realize this potential.

In the North Central region, the toughest issue for the Higher Learning Commission is keeping up with the institutions and what they are actually doing with e-learning. In the past, the institutions expanded their e-learning options so rapidly that they ended up with a degree program online before the accrediting agency could review it. To manage this, the Higher Learning Commission has created a standardized "Statement of Affiliation Status" for each member institution. That statement and an annually updated institutional profile will be available on the commission's Web-site in early 2005. This will enable the commission (and the general public) to track an institution's activities, and it will trigger reviews when appropriate. The Executive Director, Steven Crow, noted another interesting issue. The North Central region is quite large and the growth of for-profit institutions is being felt heavily in this region. Many of these for-profit institutions

want to offer online programs, and to do so they are trolling for accredited institutions with which to partner or to buy. This is a relatively new situation and is keeping the staff of the commission quite busy.

The Commission on Colleges in the Southern Association continues to find value in the guidelines created by WCET, but there are concerns about how many institutions fail to recognize the level of investments they need to do a good job with e-learning. The Executive Director, James Rogers, noted that the association does not want institutions to jump into e-learning without a thorough analysis of what the actual expenses will be and what services need to be available to help faculty and students. To save the institutions time and money, the commission has instituted a new procedure in states where there are statewide networks that offer some centralized support services for either students or faculty. They have conducted statewide reviews of the institutions offering online courses or programs. Much of the review work was conducted online, with evaluators interviewing students and exploring the services available. This looks like a promising model.

The Middle States Commission on Higher Education added a section on distance learning to their new standards that were published in 2002. This section groups distance learning into related educational activities along with nondegree programs, branch campuses, experiential learning, and the like. The section on distance learning conforms to the WCET Guidelines document mentioned above. This commission accredits about 500 institutions, and about one third of those have programs that allow students to complete 50% or more of their work via distance learning. According to the Executive Director, Jean Morse, an important issue for Middle States is student learning, regardless of the medium, and whether the institution is using the data they collect to really improve teaching and learning.

The New England Association's Commission on Institutions of Higher Education is also seeing e-learning growth at a steady pace, but most of it is in blended, or hybrid, delivery systems, versus completely online programs (like the Western Commission for Senior Colleges). As a result, they are less concerned about pedagogy and infrastructure. However, the Executive Director, Charles Cook, notes there may be some unintended consequences emerging. The biggest is the question around the integrity of the degree issued by an institution whose students have taken courses from multiple providers. There has never been a reason for the commission to deal with residency issues, but these could emerge. The commission is finishing the revision of their standards and now have a new section called the integrity of the degree, which endeavors to assign responsibility to the institution to demonstrate the integrity of its degrees. This could mean a shift to student outcomes as a way though the residency issues, but no one is sure this is the ultimate solution. Another issue Cook sees arising is how an accrediting association can determine what level of technology is necessary on a campus for that campus to be offering students the type of education that is relevant for today's world. There is no set of guidelines for facing this issue.

In summary, e-learning programs have invaded mainstream higher education. They are being used to serve both students off-campus and those who take their courses on a campus. E-learning is no longer a sideline activity and, as such, is being addressed by the accrediting community and the federal government. My guess is that approximations will continue to evolve, but it will be several years before any of us truly understands how to monitor its quality consistently.

NOTES

1. To see this document go to http://www.wcet.info/resources/accreditation/

2. Reported by Sean R. Gallagher, Senior Analyst, Eduventures. Inc. at The Education Industry Finance & Investment Summit, Washington, DC, December 2004.

3. Panel discussion by Judith S. Eaton (president, Council for Higher Education Accreditation), Steven D. Crow (executive director, The Higher Learning Commission, North Central Association), Martin Michaelson (partner, Hogan & Hartson LLP), Mark Pelesh (executive vice president for Legislative and Regulatory Affairs, Corinthian Colleges, Inc.) at The Education Industry Finance & Investment Summit, Washington, DC, December 2004.

4. Interviewees included Barbara Beno (executive director, Accrediting Commission for Community and Junior Colleges (ACCJC), in the Western Association, Charles Cook (director of the Commission on Institutions of Higher Education, New England Association of Schools & Colleges), Steven Crow (executive director, The Higher Learning Commission), Sandra Elman (exectutive director, Northwest Commission on Colleges and Universities), Jean Morse (executive director, Middle States Commission on Higher Education), James Rogers (executive director, Commission on Colleges, Southern Association of Colleges and Schools), and Ralph Wolff (executive director, Accrediting Commission for Senior Colleges of the Western Association).

VBrick Expands the Reach of Distance Learning

John G. Flores and Michael Baker

Beginning in this month's Executive Director column, I have invited members of the United States Distance Learning Association Board of Directors to become guest writers. Throughout the continuing volume series, USDLA Board members will share their experience and expertise reflective of distance learning best practices and excellence. In this edition, I'm pleased to introduce Michael Baker, Vice President of VBrick Systems Inc. and Chair Emeritus/Board Member of USDLA, as he writes about VBrick's "Always-On" distance learning application. VBrick solutions are designed to support mission-critical video applications for the many distance learning constituencies of USDLA. Key to VBrick's success is their ability to satisfy the critical elements and requirements for quality video delivery. Real-time performance, reliability, ubiquitous access, and user simplicity are just a few of the embedded features found in this state of the art distance learning application.

—John Flores

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V Brick is a 7-year-old ISO-9001 company that provides complete solutions of live real-time video, then stores and manages its delivery over local area networks and the Internet. In simple English, we can schedule and deliver live or stored video directly to any desktop or TV using an existing school network. We call our solution EtherneTV. EtherneTV is an award-winning video system designed to deliver DVD-quality video, on-demand, over any network topology and under any network conditions. At VBrick, we call this ability "Always-On Uninterrupted." We believe Always-On is a prerequisite to successful deployment of mission-critical video applications.

Nation-wide, No Child Left Behind programs are driving educators to consider new methods and technologies for enhancing the educational experience. Video is emerging as a mission-critical solution to help schools and their teachers improve the educational experience of their students. To highlight this groundbreaking use of video, let's walk through a day in the life of a school and how VBrick technology may be used. Keep in mind that this scenario can be accomplished with today's VBrick technology, except where noted.

It's 6:00 a.m., and the principal arrives at the school. Rather than walking through the school for a security check, EtherneTV can deliver real-time, live video of all doors and parking lots to verify a secure school. (In the future, technology will be developed called "domain awareness" that will tell the observer if something new has been added to an environment. For example, a package or car that is not supposed to be in that area.)

7:00 a.m. The principal activates the VBrick to broadcast information to teachers across the school network or the superintendent can speak to every principal or teacher to discuss a new curriculum requirement.

7:15 a.m. Student announcements are delivered to TVs and desktops throughout the network and can be provided from multiple schools in the district.

8:00 a.m. The political science class launches a traditional video-conference call to an dignitary in Belfast to discuss issues facing Northern Ireland. In this case, the call is made using Polycom/Tandberg/Sony videoconferencing systems. The difference is that VBrick will allow the video to be streamed to students not in the same building or classroom. In addition, the videoconference will be recorded and stored on a video-on-demand

server for later use by students who missed the call.

9:00 a.m. EtherneTV delivers the Spanish language class taught at one school and shared with three other high schools or remote campuses of universities.

10:00 a.m. A "virtual field trip" visits the Mystic Aquarium using VBrick video streams delivered over the Internet or Internet2 connections. Students visit Mystic, Monterey Bay, or the wreck of the Titantic, as well as access stored video from previous Robert Ballard expeditions.

10:45 a.m. ETV allows for an emergency notification test throughout the school district or statewide. All PCs and television monitors display a test message concerning weather/fire/earthquake events in their area. This announcement can be coordinated with traditional alarm systems and audio announcements. Preparedness training can be viewed in each classroom using VBrick EtherneTV video-on-demand systems prior to the actual drill.

11:00 a.m. Lunchroom and Student Union monitoring. This can be shown in the teacher's lounge, Campus Security office, or the main office.

12:00 p.m. The school might wish to stream live video to the monitors throughout the district or campus to view election coverage or a major catastrophe in Southeast Asia. This event can be shown on TVs or at the desktop, and can be accompanied by closed-captioning provided by VBrick, allowing teachers in the classroom to turn off the audio to discuss the events.

12:20 p.m. A student is injured in the gym and taken to the nurse's office for evaluation. This medical emergency can be further evaluated immediately with a local hospital ER using "always-on" technology from VBrick.

1:00 p.m. Teachers in the classroom can study volcanoes using approved on-demand video delivered on our EtherneTV solutions.

2:00 p.m. A student teacher is evaluated from the classroom in the district by a professor at the university using streaming technology through the Internet or Internet2.

2:30 p.m. All students are moved to the auditorium for a guest lecturer from NASA. This presentation is captured by the wireless "roll-about" cart and streamed to all schools in the district or to a university hundreds of miles away. It can also be recorded and stored on the EtherneTV video-on-demand server for future use.

3:00 p.m. ETV addresses a critical issue in schools across the nation: students understanding and properly writing down homework assignments. Using the VBrick technologies, teachers can prepare daily homework assignment files with reminders/hints regarding their assignments and post them to a Website for retrieval by parents at home. This can also be used as a means to communicate parent/teacher meetings and, in some cases, discipline issues.

4:00 p.m. Teachers connect statewide to the state school superintendent for a presentation concerning new state curriculum requirements; or the president of a university can address all of the deans and professors at one time. This technology can be used for all "in-service" requirements and can integrate live video, PowerPoint presentations, and Web pages, all using the VBrick's EtherneTV video solution. In addition, all such meetings can be streamed to our video-on-demand server for storage and future use by teachers/professors unable to attend the conference call.

Let's not forget the sports and special events at the schools and universities. Many parents travel a great deal for work, and it would be

great if they could see their son's wrestling match or their daughter's fast-pitch softball game from a computer in their hotel room.

6:00 p.m. As the last person leaves the building at night, there is a final visual security check of the building and it's good night for that day.

As you can see, there are many opportunities for schools, colleges, and universities to integrate net-work-delivered video into the classroom. I marvel at how the capabilities of video technology have grown in recent years, and can't help but compare it to my school days and college experiences when the use of video was very complex and time-consuming. Now, it's as easy as selecting a file and showing it. It's this ease of use, combined with our ability to deliver "Always-On" that allows VBrick to enhance the educational experience of K-12 schools and universities nation-wide.

I hope this column inspires you to look for new ways to embed video in your schools and universities, and I hope you will think of VBrick Systems as you design your solutions. To learn more about VBrick, visit our Website: www.Vbrick.com

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Instructor Competencies:
Standards for Face-to-Face, Online, and Blended Settings
(Revised 3rd Edition)

(Published in cooperation with the Association for Educational Communications and Technology and the International Board of Standards for Training, Performance and Instruction)

By **James D. Klein,** *Arizona State University,*
J. Michael Spector, *Florida State University,*
Barbara Grabowski, *Pennsylvania State University,* and **Ileana de la Teja,** *LICEF Research Center, Tele-universite*

This edition is not just a rehash of old, albeit classic and still important, stuff. Instead, it provides a fresh perspective on a topic of perennial interest for those working in the field that has been variously called training and development, human resource development, performance technology, and workplace learning and performance. The fresh perspective takes into consideration two additional instructor settings to the traditional face-to-face environments that most instructors and trainers know -- that is, online and blended settings. These settings are, of course, becoming more critical as instruction moves beyond classroom settings to include virtual and combinations of classroom and other media delivery methods.

The ibstpi instructor competencies match up well to *Mapping the Future* (Bernthal, Colteryahn, Davis, Naughton, Rothwell, & Wellins 2004), the current ASTD competency study of the field now known as Workplace Learning and Performance (WLP) and previously known as Training and Development (T&D). WLP is more than a new name for an old subject and represents a fundamental paradigm shift in what it means to be a professional in the field formerly known as training. WLP is all about getting improved performance -- and therefore improved results -- in organizational settings through planned and unplanned learning interventions. Instruction is thus a means to an end and not an end in itself. The ibstpi instructor competencies dovetail well with that philosophy.

CONTENTS: Dedication. The ibstpi Board. Acknowledgements. Author Biographical Sketches. Foreword. Preface. **Chapter 1:** An Introduction to Instructor Competencies Overview. The Evolution of Instructor Competence. Traditional Conceptualizations of Instruction. New Learning Paradigms. New Educational Technologies. New Roles and Settings for Instructors. Face-to Face Settings. Online Settings. Blended Settings. Conclusion. **Chapter 2:** The ibstpi Competency Development Model. Overview. What is a Competency?. The Competency Development Model. Applying the Model to Instructor Competencies. Conclusion. **Chapter 3:** The ibstpi Instructor Competencies. **Chapter 4:** Instructor Competencies: Discussion and Rationale. Overview. Professional Foundations. Planning and Preparation, Instructional Methods and Strategies, Assessment and Evaluation, Management. Conclusion. **Chapter 5:** The Uses of the ibstpi Instructor Competencies. Overview. Individual Uses. Organizational Uses. Instructor Competencies and Certification. Conclusion. **Chapter 6:** Competency Validation Study. Overview. Foundation of the ibstpi Instructor Competencies. Worldwide Validation Study. Conclusion. Epilogue. References. **Appendices. A.** The 1993 ibstpi Instructor Competencies and Performance Statements. **B.** The ibstpi Code of Ethics for Instructors. **C.** Additional Resources for Instructors. **D.** Glossary of Terms. Index.

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Boston, Massachusetts

Entering the Mainstream: Distance Education and Higher Education

Michael Simonson

Enrollments in distance-delivered courses increased almost 20% in 2003, according to a report authored by Allen and Seaman (2004). This monograph, supported by the Sloan Foundation, is titled *Entering the Mainstream* and is a follow-up to a similar study reported last year, titled *Sizing the Opportunity*.

Authors of *Entering the Mainstream* collected data using a survey collected from 1,170 institutions of higher education: 585

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public, 536 private nonprofit, and 49 for-profit. Among the interesting conclusions offered in the report were the following:

- Slightly more than half of all colleges rated online learning as essential to their overall strategy.
- 1.9 million students were studying online in the fall of 2003.
- Just over 40% of responding institutions agreed that students were at least satisfied with their online courses, as compared to traditional classroom courses.
- Baccalaureate institutions had the lowest online enrollments and lowest opinions about online learning.
- The larger the institution, the more likely it believed that online education is critical.
- Administrators predicted that online enrollments will grow 24% in the next year, with the greatest growth in private, for-profit colleges.
- The majority of academic leaders believed that online learning quality is already equal to or superior to face-to-face instruction.

John Flores, executive director of the United States Distance

Learning Association, commented on the study's findings. Flores indicated that his association is seeing similar growth patterns and reactions consistent to those reported by Allen and Seaman. Distance education is particularly attractive to older students, who are more likely to be working and less able to attend traditional residential colleges.

Of critical interest to distance education professionals were the study's findings about the perceptions of quality of online instruction. If instruction is offered to students at a distance, quality must be of paramount importance. Ultimately, students want to learn, they want to develop skills and competencies, and they demand effective teaching. Entering the mainstream is a goal achieved only if quality is there in the mainstream, also.

REFERENCE

Allen, I. E., & Seaman J. (2004). *Entering the mainstream: The quality and extent of online education in the United States, 2003 and 2004.* Needham, MA: Sloan-C. Retrieved from http://www.sloan-c.org/resources/entering_mainstream.pdf